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ABSTRACT

This report describes the technical assistance rendered to the NIE-sponsored R&D Utilization Program (R&DU) by the contractor working with the NIE staff, the Center for the Study of Evaluation, and the seven R&DU projects, to develop cross-project instrumentation, develop mutually acceptable plans for data collection and analysis, and perform and report the results of the data analysis. Information provided includes descriptions of the overall design and plan, the seven R&DU projects, the evaluation plan, the instrumentation, and the cross-project data analysis and findings for the first year. The seven projects, which are designed as natural or field-designed variations that provide a set of school improvement services believed by NIE to be essential to the selection, implementation, and use of R&D outcomes, are as follows: the Research and Development Utilization Project, State of Florida Department of Education; the Georgia Research and Development Utilization Project; the Career Education Dissemination Project, Michigan Department of Education; the Pennsylvania School Improvement Project; the Project on Utilization Inservice Education on Research and Development Outcomes, NEA; the NETWORK Consortium, Andover, Massachusetts; and the Northwest Reading Consortium, Office of Washington State Superintendent of Public Instruction. (RAO)

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EVALUATION TECHNICAL ASSISTANCE FOR THE
RESEARCH AND DEVELOPMENT UTILIZATION PROGRAM

FINAL REPORT

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PREFACE

Beginning in 1975, under the guidance and with the support of the School Practice and Service Division of the Dissemination and Resources Group of the National Institute of Education, nine laboratories and R&D centers joined in a cooperative effort. The Cooperative Dissemination and Linking Agent Training Project had two goals:

- To provide for more effective dissemination of materials and knowledge developed by laboratories and centers in the areas of educational planning, management, evaluation, and change support; and
- To make available coordinated materials and training resources to linking agents, particularly those involved in SPSD-sponsored activities.

The Linking Training Service of the R&D Exchange is a direct outgrowth of the earlier activities of the Cooperative Project. Since the initiation of the Cooperative Project, several new developments presented opportunities for the Far West Laboratory for Educational Research and Development to respond to the NIE's Dissemination and Resources Group programs and the needs of dissemination practitioners. Four related tasks were undertaken to provide educational dissemination personnel with access to intelligible and relevant knowledge or resources that could help them to:

1. Conceptualize and analyze their dissemination and linking functions and operations;
2. Attend to the selection, training, and development of their dissemination staffs;
3. Use the findings of recent major research and evaluation studies in educational dissemination; and
4. Participate in the planning, analysis, and interpretation of ongoing dissemination evaluations so that the process and outcomes of the evaluation of their programs can have more immediate and actionable relevance.

This report relates specifically to Task 4. It describes the Technical Assistance rendered to the NIE-sponsored R&D Utilization Program. The R&D Utilization Program includes seven field projects and an associated evaluation effort that includes evaluation components within the seven field projects and independent evaluation contractors. From its previous work in identifying evaluation materials for linkage programs, FWL was able to provide guidelines and appropriate training, or technical assistance, relating to the case studies and the collection and analysis of other evaluation information that the R&D Utilization Program contractors must deliver. This

report discusses and documents the major activities performed by the Far West Laboratory (during the first year only), as well as offering recommendations/suggestions for the NIE and the new study contractor.

From November 1976 to December 1977, FWL provided evaluation technical assistance to the NIE and to the seven contractors while a permanent study contractor was procured. We view this past year's activities as a learning experience for all R&DU participants, and feel that the continuation of this long-term study, under the direction of the permanent study contractor, Abt Associates, has great potential for significantly increasing our understanding of the dissemination process.

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Representing All Seven Projects

GENERAL SUMMARY

Introduction

This is the final report for the Evaluation Technical Assistance contractor for the Research and Development Utilization (R&DU) Program, sponsored by the School Practice and Service Division (SPSD) of the National Institute of Education (NIE). The Laboratory's responsibilities were to work with NIE staff, the Center for the Study of Evaluation (Design and Audit contractor), and the seven R&DU Utilization projects to develop cross-project instrumentation, develop mutually acceptable plans for data collection and analysis, and perform and report the results of the data analysis.

Each R&DU project was directly responsible for collection of all data relating to its project. FWL then assumed responsibility for coding and analyzing these data on a cross-project basis and prepared reports on analysis of cross-project data. Each R&DU project submitted reports and, at its option, conducted additional analyses of its project-level data.

This report contains descriptions of the overall design and plan, the seven R&DU projects, the evaluation plan, the instrumentation, and the cross-project data analysis and findings for the first year.

Purpose of the R&DU Program

The purpose of the R&DU Program is to provide services that help schools use R&D-based innovations that improve educational practices. The program's orientation is action research; about 80 percent of the effort supports activities providing direct services to schools, whereas about 20 percent is used to study these activities so as to affect other ongoing federal and state R&D utilization efforts. The R&DU Program includes seven field operations and an associated evaluation effort.

The Seven Projects

The seven projects can be described as natural or field-designed variations that provide a set of school improvement services believed by NIE to

be essential to the selection, implementation, and use of R&D outcomes. Four of the projects are located in individual states and are headquartered in the state educational agency. Their prime linkages with participating schools are through intermediate agencies (e.g., teacher centers) or other resource groups such as university or nonprofit service and training agencies. The other three projects are consortia, each involving schools and intermediate agencies in more than one state. One is directed by a nonprofit organization with linkages in six states; another is led by one of four co-operating state education agencies, its linkage being with intermediate service agencies (one in each of four states); and the remaining project is a consortium led by the National Education Association (NEA) national headquarters and operating with state NEA agencies and state education agencies in six states. (All projects are identified in Figure 1 below.)

Figure 1

THE SEVEN R&DU PROJECTS

PROJECT	LOCATION OF PRIME CONTRACTOR
The Research and Development Utilization Project	State of Florida Department of Education Tallahassee, Florida
The Georgia Research and Development Utilization Project	State Department of Education Atlanta, Georgia
The Career Education Dissemination Project (CEDiss)	Michigan Department of Education (MDE) Lansing, Michigan
The Pennsylvania School Improvement Project	Pennsylvania Department of Education (PDE) Harrisburg, Pennsylvania
The Project on Utilization Inservice Education on Research and Development Outcomes	The National Education Association of the United States (NEA) Washington, DC
The NETWORK Consortium	The NETWORK Andover, Massachusetts
Northwest Reading Consortium (NWRC)	Office of Washington State Superintendent of Public Instruction Olympia, Washington

The Idealized Program

Given the diversity of approaches encouraged by the Request for Proposals (RFP), the evaluation effort faced the problem of defining a common core program across sites to be evaluated. Measurement tools, data-gathering strategies, and analysis procedures always reflect assumptions about what is being studied--whether consciously or unconsciously. With a variety of different activities among projects, there is a high potential for methodological biases favoring one perspective over another. A generalized paradigm is needed to reflect what all projects proposed and to avoid bias in areas where critical differences exist.

Therefore, the intent of the evaluation paradigm was to reflect an idealized view of what each project was doing--not a realistic portrayal of activities observed at a specific school/site. The paradigm tried to avoid biases toward dimensions along which projects vary in important ways. For example, it was not assumed that "needs" must always be assessed in depth as a first order of business nor that the organizational health of a school be of first priority--the paradigm allows for either perspective. This is not to say that the paradigm is without bias, but only that the biases it includes are not believed to be tied to critical differences among projects.

Briefly, the paradigm of the R&D Utilization Program used for evaluation purposes was as follows:

Certain CONDITIONS (i.e., *reasons for change, knowledge, a clearly-defined innovation, organizational environment, material resources, human resources, a plan, sufficient time, and an opportunity or triggering mechanism*) are presumed necessary and sufficient for change; when one or all are missing or unsatisfactory, there are thought to be STRATEGIES and TACTICS that can be delivered as services to improve conditions for change; these services can be obtained from within the organization through external LINKAGES with other organizations. When these services result in sufficiently improved conditions, change and improvement will occur.

From an evaluation perspective, CONDITIONS are antecedent variables, STRATEGIES and TACTICS for mitigating unfavorable conditions are intervening, manipulable variables as are organizational LINKAGES used to provide strategies and tactics, and change and improvement are dependent, outcome variables.

It should be re-emphasized that this CONDITIONS-STRATEGIES/LINKAGES-OUTCOMES paradigm reflects an idealized view of the R&DU Program. Its elements do not necessarily correspond one-to-one with the field-initiated projects, but rather are abstractions of activities of those projects to a single paradigm used for study across sites and across projects.

Description of Respondents

The primary focus during the first year of the evaluation was on school sites, on major participants at sites who became engaged in school improvement, and on how external agencies interact with school personnel. The primary unit of analysis is a group of school practitioners, typically located in a single elementary, intermediate, or secondary school building; however, some sites may involve teams of teachers, school principals, staff specialists, or other administrators representing several schools as well as the central office.

Approximately 250 sites were recruited voluntarily from among school districts located in approximately 20 states.

Information regarding site activities was collected from the following types of persons:

- Principal Respondent (PR). One key person or principal respondent was selected for each site. This person may have been a building principal or head teacher; however, the key person may hold any of a number of different kinds of professional positions (e.g., chairperson of high school department, director or supervisor of instruction, assistant principal, guidance counselor).
- Other Site Personnel. At sites selected for intensive case study, two to five other persons were selected for field interviews at each of three points in time (T1, project initiation; T2, selection of an R&D outcome; and T3, one-year follow-up). These individuals may include any of the site professional staff, and in some instances also include participating parents or other lay community members. The composition varies from site to site depending on specific site activities (e.g., extent to which the community participates in problem solving).
- Linking Agent/Facilitators (LA). These external individuals were employed by projects to help school staff utilize the best knowledge, practice, or products available for planning and implementing educational improvements. Linking agents may be located in a state educational agency (SEA), an intermediate service agency (ISA), or a laboratory or university department or R&D center. Functions of the role vary, but include assistance in problem definition, access to knowledge and materials, or assistance in implementation.

The Program Outcomes

The outcomes (or dependent variables) predicted when the necessary and sufficient conditions prevail are:

- A mitigation or amelioration of unfavorable conditions for change, which, in turn, will result in...
- a change or changes in the educational program (school management, classroom instruction, etc.) which, in turn, will contribute to...
- improvement in the performance, achievement, or growth of children or adult learners (based on site-originated data, if available).

The outcomes define the long-term objectives of the R&DU projects. Shorter-term objectives can be identified which, under certain investigative circumstances, also constitute dependent variables. These relate to the four service areas in the RFP:

- Improved identification of local needs;
- Increased sophistication in establishing criteria for selection of innovative programs;
- Increased use of information about R&D-based innovations; and
- Increased utilization of R&D outcomes.

Data Users and Purposes

Since instrumentation was designed to aid the individual linking agent or linker team to gather and organize immediately pertinent, site-specific information that should be helpful for planning/reviewing R&DU activities, several levels of data use include the following:

- Site level--for planning/review of individual site activity.
- Project level--for management review, quality assurance, formative evaluation, and documentation.
- Cross-project level--for formative and summative evaluation (policy, management, and research).

Data Collection Instruments

Three levels of data collection are part of the design. Each level (a broad level study, selected site case studies, and selected linkage case

studies) includes different types of instruments and procedures at different points in time. Each focuses on a different way of looking at the program. Some of the same questions are asked differently in each level; some questions are asked across each level; and different questions are asked in each. These levels represent different "slices" through the operational sphere. Analyses aim to look across these levels in order to strengthen understanding of the validity and reliability of the observations.

The Broad Level Study

This is a study of all participating sites. The data are based on: (1) a Principal Respondent (PR) questionnaire delivered to its site PR by a linking agent/facilitator as early as possible (modified forms of the questionnaire were to be mailed at two later times in each site's project "life"); (2) a review of and commentary on each site's questionnaires by project staff; (3) a monthly summary of LA or other project transactions with each site, kept by each project; and (4) a recap of activities at each site at the end of each major phase of the project's involvement there.

Selected Site Case Studies

The purpose of this level is to examine the outcomes in more detail and with more sophistication, to define specific tactics used and their costs more precisely than provided in the survey, and to explore cause and effect relationships between the projects more comprehensively than is possible from analyses of the broad level study. Data gathered from these sites can also be compared to data from the broad level study to judge the validity of that data collection.

The selection of these case studies was based on these criteria:

- Representativeness of the site of the project's approach;
- Previous history of innovativeness at the site and the pervasiveness of the problem there;
- Mix of conditions or treatments addressed; and
- Quality of local education agency evaluation conducted at the site level.

Selected Linkage Case Studies

The broad level study and the site case studies focused on school sites. It was expected that some of the value of the R&DU Program would not be visible at that level. Many projects planned to devote part of their effort to establishing or strengthening relationships between state or national agencies (providing project leadership) and intermediate agencies such as an intermediate unit, a regional office, or a teacher center. Many plans also called for changes in relationships between these two levels of agencies and other agencies, such as regional laboratories and R&D centers and/or colleges of education. Long-term benefits from changes in these relationships can be expected that are not tied directly to site-level outcomes.

Instrumentation

The evaluation design and the design of the data collection instruments were influenced and guided by a conception of the R&DU process and by several specific intents, namely to:

- Gather information about varied approaches to and outcomes of R&DU--several sites from seven different projects are used;
- Obtain different perspectives on participation in R&DU at a site--several different types of respondents involved at selected case study sites are asked the same or similar questions;
- Gather information pertinent to refining an operational concept of an R&DU program involving necessary conditions for change, strategies and tactics, and to modify linkages for these conditions, and the relationship of these to site outcomes; and
- Obtain data useful for site-level, project-level, and cross-project-level purposes.

Figure 2 (See following page) illustrates this relationship between the type and level of information discussed and the data collection instruments.

Plans for Tabulation and Data Analysis

The instruments listed in Figure 2 were designed to obtain information on problem solving, R&D outcome selection and decisionmaking, and R&D outcome implementation processes at each of approximately 250 school sites.

Figure 2

DATA COLLECTION INSTRUMENTS

	INSTRUMENTS/DELIVERABLES (T1, T1/2*, T2)	TYPE OF RESPONDENT	DATA PROVIDED
SITE-SPECIFIC INSTRUMENTATION	<u>Questionnaire</u> - printed instrument with instructions developed across 7 projects; mailed, or in the majority of cases, is hand-delivered by Linking Agent (LA).	Principal Respondent/Informant (PR) • Superintendent • Principal • Teacher • Administrator • Specialist	• Perceptions of site problem • Perceptions of tactics and strategies addressing the problem
	<u>Commentary</u> - included instructions and examples; a review of and commentary on each site's questionnaire.	• Linking Agent/Facilitator (LA/F)	• Same as above
	<u>Q-sort</u> - included instructions; described barriers to change.	• Principal Respondent/Informant • Linking Agent/Facilitator • Interviewees (I)	• Conditions, antecedents to problem solution process
	<u>Interview Schedule</u> - included instructions and probes; based upon questionnaires to acquire further knowledge from "other" site-related persons.	Interviewees (case study sites only, may include): • Superintendent • Principal • Teacher • Specialist/Supervisor/Coordinator • Administrator • Aide/Librarian • Parent	• Perceptions of site problem • Perceptions of tactics and strategies addressing the problem
PROJECT SPECIFIC	<u>Transaction Logs</u> - included instructions and examples; a taxonomy in coding site's major transactions.	Linking Agent/Facilitator and other Project Personnel	• Documentation of tactics and strategies used by project personnel
	<u>Problem Identification Reports (PIDs)</u> - project-specific reports; summary of data geared (basically) to the instrumentation, in addition to group process/skills, level of effort, etc.	Project Personnel	• Documentation of conditions, strategies, and outcomes

* A special set of instruments (T1/2) were developed to obtain information retrospectively on T1 at the same time that T2 was collected, if it was necessary. However, the need did not arise.

Approximately one-fourth of these sites were selected for more intensive case study.

Given the very large number of possible lines of investigation, the NIE has prepared a general and yet comprehensive evaluation design, Draft of the Design of the Evaluation of the Research and Development Utilization Program, to provide general guidance. The NIE Design document notes that foremost are questions of outcomes: how well did sites, projects, and the total program perform on all outcome variables? But answers to such simple questions are followed by the need to interpret and explain results pertinent to policy, management, and research. These three lines of inquiry (policy, management, research) and the three major elements of the R&DU Program paradigm--necessary conditions, prescribed strategies and tactics, and linkages--are discussed at length in the Design document.

There are a number of common data analysis requirements. For example, to answer almost all the questions required operational methods for measuring:

- Independent or antecedent variables, including the nine conditions posited as the cause of change.
- Intervening or manipulated variables--tactics and strategies associated with each condition and use of appropriate linkage arrangements.
- Constraining or concomitant variables not discussed before. These variables, over which the program has no control, are assumed to have major impact on program outcomes. Among others, they may include: district per-pupil expenditures, availability of external sources of funding or other assistance, socio-economic status of children and community, size of school and district, ration of special administrators to total administrative staff, community climate as it might be judged through such things as passage of bond issues, public demonstrations, etc.
- Dependent or outcome variables:
 - Short-term or "proximal":
 - increased precision of problem analysis, and
 - increased awareness, selection, and use of relevant R&D outcomes.
 - Longer-term or "distal":
 - changes in educational programs,
 - mitigation of local problems, and
 - improved student outcomes.

Analyses of these data to answer the questions require methods for determining frequencies, distributions, and patterns of variables as well as relationships between variables. Techniques include descriptive analyses (e.g., counts and percentages), "pattern" analyses (e.g., correlations and factor analyses), and "source of variance" analyses (e.g., analyses of variance including "nested" analyses to partial out sources of variance).

Data Analysis Results

Data from site and project personnel were collected and analyzed in order to obtain information about: perceptions of antecedent conditions that could influence identification and implementation of innovations to solve site problems; tactics and linkages (transactions) used to help solve these problems; relationships between antecedents and transactions; and outcomes of those transactions.

Though some differences existed between projects at T1 (time of initiation), principal respondents (PRs) at nearly all sites had little familiarity with R&D products and rated most of the 39 potential barriers as important to problem solution. This is especially true of barriers involving information about innovations and securing money; PRs consistently indicated a need for help with these barriers, whereas they perceived that less help was needed in interpersonal relations and problem identification. There is considerable agreement between PRs and linking agents (LAs) as to a site's significant barriers, though LAs consistently rated nearly all barriers as needing more external help than did PRs. For most barriers, there are significant and strong differences in ratings attributable to LA effects; i.e., LAs tended to perceive the same barriers at different sites, suggesting that LAs' preconceptions or stereotypes of important barriers influence their ratings as much as or more than site characteristics.

Although help in human resources and training and information are most frequently sought, and colleges and universities, state education agencies, and federal programs are types of agencies most frequently contacted for such help, considerable differences exist between sites of different projects in both types of agencies contacted and types and amount of help sought.

Probability of occurrence and mean amount of time spent were calculated for each of a number of transaction characteristics (type of personnel, form of contact, intent of transaction, addressed condition) for each of three major problem solution phases (i.e., problem identification, solution search, and implementation) for each project. Although these transaction profiles differ depending on the problem solution phase involved, there are considerable similarities across phases. Most transactions involve principals or teachers and linking agents in telephone calls or project personnel visits to sites, and address needs for knowledge or plans by providing information.

Projects differ in number and types of transactions, as well as in amount and distribution of effort in transactions. Most differences are due to differences between individual linking agents rather than to differences in project-wide strategies or selection of sites.

Though a relationship might be expected between factors perceived to be barriers to problem solution at a site and types of transactions engaged in by that site with its linking agent, preliminary analyses have not discovered very strong or consistent relationships. However, nearly all respondents reported that R&DU Program activities were helpful and that they would like to engage in similar activities in future problem-solving efforts.

At T2 (selection of solution), even more agreement exists between PR and LA barrier ratings than at T1, and nearly all barriers are rated to be less in need of help than at T1. But there is no indication of increased sophistication (or any significant change) in perceptions of a site's major educational problem, its causes, or its possible solutions.

The study provides a wealth of data, both qualitative and quantitative, on site and linking agent activities directed toward problem solution through R&D utilization and on site conditions with potential influence on those activities and their outcomes. Comparisons of perceptions of antecedent conditions and comparisons of ensuing activities reveal many differences, but similarities as well, between projects, between types of respondents, between individual respondents within projects, and between different phases of problem solution. Some information on relationships between conditions and on outcomes of the R&DU process has also been derived; however, continuation of T2 and T3 (one-year follow-up after T2) data collection and analysis should provide considerably more information for these areas.

PROJECT HISTORY

The Far West Laboratory for Educational Research and Development (FWL) was the instrumentation and interim data analysis contractor for the first year of this several-year study. This work was conducted under the direction of Paul D. Hood, Associate Laboratory Director. FWL's responsibilities were to work with NIE staff, the Center for the Study of Evaluation (Design and Audit contractor), and seven R&D Utilization projects to develop specified cross-project instrumentation and mutually acceptable plans for data collection and analysis.

The following examples of activities, reports, meetings, and communications outline FWL participation in this project:

- The review of existing research and materials relating to this study (e.g., National Diffusion Network, Pilot State Dissemination Project, Federal Programs Supporting Change, and the State Capacity Building Program).
- The formulation of an initial evaluation design. In contrast to the more traditional systems approach to design and management of a program evaluation (see Guba and Clark, 1974), The Configurational Perspective: A View of Educational Knowledge Production and Utilization approach was chosen for this project, as characterized by:
 - a more decentralized structure;
 - overlapping goals;
 - a more coequal agency status;
 - a more emergent and idiosyncratic goal orientation; and
 - a more intrinsic motivation.

As such, the configurational approach does not call for a carefully planned, centrally managed and controlled evaluation in which linking agents and school personnel would be passive data collectors or informants, but rather for participation in which all could share more equally in providing for, reacting to, and learning from the process.

● Reports:

- Supporting Statement for Cross Project Evaluation of the R&D Utilization Program, February 28, 1977. This document included description of the overall study design and description of all T1, T2, and T1/2 cross-project instrumentation and copies of instrument forms.
- Evaluation of the R&D Utilization Program: Analysis Plan, March 11, 1977. This document was intended as a supplement to the Supporting Statement and documented FWL's total design for evaluation of the R&DU program.
- Transaction Log, April 1, 1977. The transaction log is intended to help document all major transactions between the projects and the sites with which they worked.
- Quarterly Report, June 30, 1977. This report documented T1 quantitative data analysis for those sites which had received and reported data in time for FWL's analysis deadline, as well as the qualitative Coding Manual and Coding Scheme drafts and a report on the Casewriters' Conference held in June, 1977.
- Quarterly Report, September 30, 1977. The September report summarized findings based on the 1976-77 school year for which FWL had received data. Final findings are documented in this final report.
- Evaluation Exchange Bulletins, May, 1977; September, 1977; and November, 1977. These Bulletins shared both quantitative and qualitative findings with the NIE and the seven projects. FWL staff hoped to stimulate more frequent informal communication and interaction (through periodic informational bulletins) and hoped that they would serve to stimulate interest through comments, sharing, recommendations, etc., among all those involved in the R&DU Program.

● Meetings/Communications

- There has been extensive communication, both verbal and written, between FWL and the NIE, as well as between FWL and the seven projects. Quarterly meetings were held with FWL/NIE staff; at least three project directors and/or staff visited FWL during the year.
- Linker Training Meeting, September 19-20, 1977, held at FWL; involved the NIE, one project director, and FWL staff, in addition to external consultants.
- Alternative Dissemination Models Meeting held at FWL, November 17-18, 1977. Again, NIE, FWL, and project staff attended, along with external consultants representing Indiana University and Stanford University. The purpose of this meeting was to consider the results of the R&DU Program in relation to other studies of educational extension.

- The First Casewriters' Conference and workshops were held in Atlanta, Georgia, March 14-15, 1977. The purpose of the meeting was to introduce and familiarize case study writers with the R&DU Program and the overall design and purpose of the case studies, and to discuss possible alternative formats and methodologies.
- The Second Casewriters' Conference and workshops were held June 20-24, 1977. NIE, FWL, project staff, and external casewriters discussed the seven linkage and site case studies which had been submitted to the participants prior to the meeting. Further discussion was held on site case study outlines and it was agreed that a further follow-up meeting was desirable and was scheduled for Spring or early Summer of 1978.

It should be noted that each of the R&DU projects was directly responsible for collecting all data relating to its project. FWL then assumed responsibility for coding and analyzing these data on a cross-project basis and prepared reports on the analysis of cross-project data. The seven R&DU projects each submitted reports specified in individual contracts and may, at their option, conduct additional analyses of their own project-level data.

To protect the privacy of respondents and the professional integrity of the evaluation, all participants were informed as to the purposes and nature of the R&DU study, the kinds of information sought, and the importance of systematic and reliable documentation and data collection. All personal identification was removed by the individual projects before submission to FWL. However, data received by FWL was screened to determine that individual identification information inadvertently provided was deleted in order to further protect the anonymity of raw data in site files.

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 - Harry Johnson, Evaluator (from 7/1/77)
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 - Rick Harris, Director of Evaluation
- National Education Association (Washington, DC)
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- Michigan Department of Education (Lansing, MI)
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Andrea Lash	Terry Taylor
Cliff Levin	William Tikunoff
Donna Lloyd-Kolkin	

Far West Laboratory Core Staff at Conclusion of Project:

Paul Hood	Principal Investigator and Director
Laird R. Blackwell	Evaluation Specialist
Marcia Neil	Research Clerk
Betty Jo Pool	Project Manager

Finally, it seems appropriate to indicate the major conceptual and managerial role played throughout this effort by C.L. Hutchins of NIE, from whom came the original ideas and impetus for this significant R&D venture in dissemination.

OVERVIEW

Introduction

The Research and Development Utilization (R&DU) Program is sponsored by the School Practice and Service Division of the National Institute of Education. The purpose of the program is to provide services that help schools use R&D-based innovations that improve educational practices. The program's orientation is action research; about 80 percent of the effort supports activities that provide direct services to schools, while about 20 percent is directed toward studying these activities in order to affect other ongoing federal and state efforts to help schools. The program includes seven field operations or projects and an associated evaluation effort.

The seven projects can be described briefly as natural or field-designed variations for providing a set of school improvement services believed by NIE staff to be essential to the selection, implementation, and use of R&D outcomes. (For a brief description of each of the seven projects, see page 4.)

Rather than using planned variations in an experimental manner, field-designed variations were used in order to tie into ongoing, high-priority efforts by state or national agencies. These ties were sought to increase the probability of success, to catalyze larger amounts of resources than would have been available from NIE alone, and to increase the probability of institutionalization. Besides their similarity in focusing on services designed to improve the use of R&D outcomes, the projects are alike in delivering most of their services through "intermediate service agencies"--usually working with or through a state education agency. These intermediate agencies range from county and regional offices of state departments and state-level professional teacher organizations to R&D laboratories and universities. Most of the projects are

designed to yield similar educational benefits, usually expressed as improved student achievement in the areas of reading, math, or career education.

The evaluation effort provides a unique opportunity to look across the seven projects and across approximately 250 school sites to learn about how to stimulate and support change that leads to improvements in educational practice. The evaluation is intended to provide information to:

1. guide federal and state policies governing improvement of services directed to local schools, including program change;
2. identify successful management techniques that can be used to govern and operate such improvement services; and
3. enrich the theoretical and research knowledge that exists about the process of managed change in education.

The evaluation design tries to balance attention given to policy, management, and research interests. The premise of the effort is that all three perspectives are equally important, but that the questions and methodologies of the three perspectives are different. Hence, an evaluation effort designed to serve all three perspectives departs from efforts that are more heavily weighted to one or the other of these interests.

A consequence of this balancing of policy, managerial, and research interests with local interests is that neither the program nor the evaluation design can be described as a "planned variation." That is, the Institute did not predetermine different patterns for delivering change support services to schools and commission one or more versions of each pattern for study and comparison purposes. Instead, the Institute defined a general set of activities that were thought to be important and necessary for R&D utilization; proposals were to be written either around this set of activities or around other sets that the proposer justified as an alternative to those defined by the Institute. The resulting

projects, picked in part to encourage alternative approaches, are a rich set of different ways of doing roughly the same thing. For example, the Request for Proposal (RFP) specified that these minimal services be attended to:

- Services that supported the identification of local needs;
- Services that established criteria for the selection of innovative programs;
- Services that provided information about alternative innovations, particularly those that were R&D-based; and
- Services that supported a wide array of implementation help.

The above guidelines helped to define a common frame of reference and focus for the projects, but they left considerable room for different approaches in the activities that were chosen to carry out these services, the sequencing and prominence given to each of these service areas, the amount of effort devoted to each, and the technical skill and organizational base of those assigned to carry them out. The goal of the evaluation effort was to look across these "natural" variations and gather information that would answer at least some of the needs of policymakers, program managers, and researchers.

The seven projects can be described briefly as natural or field-designed variations for providing a set of school improvement services believed by NIE staff to be essential to the selection, implementation, and use of R&D outcomes. Four of the seven projects are located in one state and are headquartered in the state education agency. Their prime linkages with participating schools are through intermediate agencies (e.g., teacher centers) or other resource groups such as university or nonprofit service and training agencies. The other three projects are consortia, each involving schools and intermediate agencies in more than one state. One is directed by a nonprofit organization with linkages in six states; another is led by one of four cooperating state education agencies,

its linkage being with intermediate service agencies (one in each of four states); and the remaining project is a consortium led by the National Education Association (NEA) national headquarters and operating with state NEA agencies and state education agencies in six states.

The Seven Projects

1. The R&D Utilization Project - State of Florida Department of Education

The major problem area of concern for Florida's schools was identified by action of the state legislature as basic skills. The Florida Department of Education is developing the Florida Linkage System (FLS), a comprehensive, interpersonal approach to guide local problem identification and analysis, solution search and selection, and installation of relevant R&D outcomes. This system is a direct outgrowth of several other educational diffusion models which have had limited application in the state, including the university-developed Florida Assessment and Diffusion System (FADS). The FLS linkages include Teacher Education Centers (TECs) which coordinate inservice needs of teachers with the resources of the TECs and the state Institutions of Higher Education (IHEs). In addition, the TECs provide other support by securing the services of other external agencies to meet local school needs.

Number of schools/sites*: 29

Number of linking agents: 8

2. The Georgia R&D Project - Georgia State Department of Education

The Georgia State Education Agency proposal is to create a permanent state network able to generate "inner-directed" change in local education agencies.

* The numbers reported for each of the projects indicate the number of sites reported to FWL for this study, although in several instances no data or limited data was received from some of the sites.

The basic strategy is to link the state education agency, three Cooperative Educational Service Agencies (CESAs), and school sites in these CESAs to create and pilot test an R&D utilization capability in basic skills and career education. Strong emphasis is placed on changing, over time, the role of the Georgia State Education Agency to a more service-oriented one, and on spreading the experience and new capability of the three CESAs to all 18 CESAs in Georgia.

Number of schools/sites: 38

Number of linking agents: 6

3. The Career Education Dissemination Project (CEDiss) - Michigan Department of Education (MDE)

A legislatively-mandated career education planning structure has been established in Michigan through which the proposed project's objectives can be met without the need for extensive preliminary or "front-end" activity. The Career Education Act, by clear implication, requires the planning and implementation of career education in all Michigan K-12 schools. The objective that the Michigan Department of Education seeks to achieve through the proposed R&DU project is to complement and build upon current MDE objectives to assist local districts in their career education efforts through the provision of services provided by Career Education Planning Districts (CEPDs).

Number of schools/sites: 49

Number of linking agents: 49

4. The Pennsylvania School Improvement Project (PSIP) - Pennsylvania Department of Education (PDE)

Pennsylvania proposed to link the state education agency, two intermediate units (ISAs), and three R&D resource agencies--Research and Information Services for Education (RISE), Learning Research and Development Center (LRDC), and Research for Better Schools, Inc. (RBS)--to provide R&D utilization services to

schools in the project. Staff from these agencies are organized into three work teams: (1) a Management Team to direct the project; (2) an R&D Resource Team responsible for development of the knowledge base and for helping schools use that base; and (3) a School Assistance Team working out of the intermediate units that will help schools analyze their basic skills problems, and select and implement related R&D outcomes. The R&D Resource Team consists of staff from LRDC and RISE, assisted by RBS, the state education agency, and the intermediate units. The School Assistance Team consists of the state education agency, the intermediate units, and RBS, assisted by RISE and LRDC.

Number of schools/sites: 15

Number of linking agents: 2

5. The Project on Utilization Inservice Education on R&D Outcomes - The National Education Association of the United States (NEA)

The National Education Association's Washington, DC, project involves a consortium of both State Departments of Education (SDEs) and state NEA offices. In its first year, six states were involved: Alabama, Massachusetts, Michigan, Ohio, Pennsylvania, and Wisconsin. NEA added six additional states during the second year of their project: California, Minnesota, Oklahoma, Texas, Washington, and Wyoming. NEA's problem area concerns providing a national/state system to support local application of educational R&D outcomes designed to improve teaching of the basic skills in science, mathematics, reading, language arts, reasoning, and problem solving. To support their state facilitators, NEA has established a user-based information system which operates out of the NEA headquarters.

Number of schools/sites: 60

Number of linking agents: 24 (2 per site, in some instances)

6. The NETWORK Consortium

The NETWORK (a nonprofit organization) formed a consortium of linking agencies and agents which operates in six states (California, Connecticut,

Kansas, Massachusetts, Minnesota, and Washington) to provide validated programs to local education agencies (LEAs) with identified needs in reading. There are Participating Linking Agencies (PLAs) in each of the six states providing dissemination and diffusion services to schools in their respective state. The NETWORK, headquartered in Andover, Massachusetts, serves these agencies as the central resource organization by providing coordination, evaluation, documentation, support, and training for personnel.

Number of schools/sites: 25

Number of linking agents: 6

7. Northwest Reading Consortium (NWRC) - Office of Washington State Superintendent of Public Instruction

The Northwest Reading Consortium's project works with four states in the Northwest region: Alaska, Idaho, Oregon, and Washington. NWRC is headquartered in the state education agency, Olympia, Washington. NWRC's linkage arrangement is with four intermediate service agencies (one per state). The project is concerned with an extension of the Right-to-Read (R2R) program and with providing schools with the knowledge and resources to seek solutions for their identified problems.

Number of schools/sites: 36

Number of linking agents: 4

Comparison of the R&D Utilization Projects

There are many significant commonalities--as well as differences--among these projects which are a result of the design of the NIE R&DU Program. The general design specifications called for projects which demonstrated an:

- Attempt to increase knowledge and utilization of R&D outcomes as part of the solution to locally-defined problems;

- Attempt to orchestrate a much fuller range of change support services than had characterized previous R&D dissemination efforts; and
- Attempt to create arrangements among a variety of existing agencies.

In addition, other explicit provisions were assistance in:

- Delivering technical assistance to local schools through the use of "linking" staff;
- Identifying specific educational problems at each site;
- Developing and using information on available R&D-based outcomes (products, programs, practices);
- Selecting and adopting specific R&D outcomes based on locally-developed criteria and needs; and
- Implementing the selected R&D-based programs at the local site.

There are similarities--all of the projects are multi-level, interorganizational arrangements. Three levels of activity can be found in all projects:

- Project management and specialized project support functions;
- Intermediate agencies which perform most or all of the "linking" functions; and
- Sites (schools or groupings of school staff within a local education agency).

The four single-state projects share common features at the state level (Departments of Education), intermediate level, and local education agency level. By contrast, the three multi-state projects are distinctly different in the sense that one is managed by a Department of Education, one by an education association, and another by a nonprofit firm. There are many other distinct differences in the way they are organized and operated. (For the interested reader, see Appendix A for a Synoptic Comparison of the Seven R&D Utilization Projects Based on an Analysis of the Project Proposals.)

The Idealized Program

Given the diversity of the approaches encouraged by the RFP, the evaluation effort was faced with the problem of defining a common core program across sites to be evaluated. Measurement tools, data-gathering strategies, and analysis procedures always reflect assumptions about what is being studied--whether consciously or unconsciously. With a variety of different activities among the projects, there is a high potential for methodological biases that favor one perspective over another. What is needed is a generalized paradigm which reflect what all the projects proposed to do that is not biased in areas where critical differences exist among projects. At the same time, the definition of the object of the evaluation was sensitive to differences that could be expected within projects. In fact, it would not be surprising if powerful variables much beyond the control of the projects cause more variation within a project across sites than between projects. The conceptualization of the program must take such matters into consideration.

A solution for this problem was proposed by the evaluation paradigm described below. It was intended to reflect an idealized view of what each project is doing--not a realistic portrayal of the activities that might be observed at a specific site. The paradigm tries to avoid biases toward dimensions along which the projects vary in important ways; it tries not to reflect either a "systems" view of change or a "developmental" view. For example, it is not assumed that "needs" must always be assessed in depth as a first order of business, nor that the organizational health of a school be of first priority--the paradigm allows for either perspective. This is not to say that the paradigm is objective and without bias, but only that the biases it does include are not believed to be tied to critical differences among the projects.

A description of the idealized paradigm of the program follows. It consists of an explication of pre-existing conditions believed to control change, the use of tactics to improve satisfactory conditions, and the creation of linkages external to the school to deliver support services that apply needed tactics to unsatisfactory conditions.

1. Conditions Required for Change

Certain conditions are hypothesized to be necessary and sufficient to support change that leads to improvements in educational practice. (From an evaluation or research perspective, these conditions represent the "independent" or "antecedent" variables of the design.) They are:

- REASONS for change--there must be reasons for change that have been generated externally to the organization involved; these external reasons or other internally-generated reasons must be internalized within the organization in order for change to occur, and all these reasons must have been transformed into incentives for the individuals involved.
- KNOWLEDGE on the part of all who must be involved in the change--there must be a knowledge of the reasons for change, knowledge of alternatives to the status quo, knowledge or understanding of the nature of the innovation selected for implementation, and reasonable knowledge or expectations about the consequences of the change.
- An INNOVATION--a clearly-defined, different way of doing things must be selected which matches local needs and constraints (the innovation can be generated from within the adopting site or adopted from outside); if actual improvements are to result from the changes, this innovation must have the capability of producing the desired improvement--increases in learning. (In the R&D Utilization Program, this ancillary condition is handled either through "front end" quality control--encouraging the selection of R&D outcomes with proven effectiveness--or "tail end" provisions for site-specific evaluations of the effectiveness of the change effort.)

- An ORGANIZATIONAL ENVIRONMENT that supports the change process--the organization must provide leadership and absence of threat to those who seek change, and a management and technological capacity equivalent to that required by the targeted innovation (included in the latter requirement would be an ability to define goals, identify appropriate roles and divisions of labor, gather and use appropriate feedback about the early use of the innovation, and deliver needed support services.)
 - MATERIAL RESOURCES--those, if any, required to acquire the necessary elements of the innovation.
 - HUMAN RESOURCES--in sufficient number, with sufficient skills, available time, and energy to carry out the design of the innovation.
 - A PLAN of and formal commitment to what is to be done by those who are involved in the change.
 - Sufficient TIME for the change to be implemented and the outcomes to be observed.
 - An OPPORTUNITY or triggering mechanism that provides impetus to put the process in motion. (It could be an event such as a school bond issue failure, the hiring of a new superintendent, or an event tied to a regular, planned renewal process such as a scheduled review of materials for replacing existing texts.)
2. Tactics and Strategies for Change Support (From an evaluation perspective, these tactics for mitigating unfavorable conditions constitute one of two sets of "intervening or manipulated variables.")

In the presence of all the conditions described above, it is hypothesized that change will occur. In the absence of such conditions, it can be said that there is a discrepancy between the conditions necessary for change and those that exist. When discrepancies exist, an agent (an individual, an organization, a "system" of organizations) can undertake to provide services and/or stimulate internal capacities to correct the the deficiency. When applied from outside the school, these services constitute a set of "tactics" or support services. For example, a

2. variety of information tactics can be deployed when knowledge is deficient. Training or the use of consultants can be arranged when human resources are inadequate. Financial resources can be supplied when they are deficient. Innovations can be made available or modified when there isn't one available from within. These tactics can, in turn, be implemented in a pattern or strategy such as the one implied in "systems," organizational development, or capacity-building approaches.
3. Organizational Linkages Necessary to Provide the Required Services
(These constitute the other set of intervening variables.)

The program hypothesizes that when internal capacity is insufficient to supply needed services, the involvement of one or more external organizations (or individuals) may be required to implement the activities/tactics/strategies necessary to mitigate deficient conditions. One agency such as an intermediate service agency might not have the necessary capacity and resources to deliver all of the required services. Hence, linkages or arrangements between agencies need to be created to provide necessary resources and implement the required tactics.

In summary, the paradigm of the R&D Utilization Program used for purposes of evaluation is contained within the following statement: *Certain conditions are presumed necessary and sufficient for change; when one or all are missing or unsatisfactory, there are thought to be tactics that can be delivered as services to improve conditions for change; the services can be obtained from within the organization or through external linkages with other organizations. When these services result in sufficiently improved conditions, change and improvement will occur.* It should be re-emphasized that this description is idealized. The elements described do not necessarily have a one-to-one correspondence with the seven field-initiated projects. The description is intended

to abstract the activities of those projects into a single paradigm that can be used for study across sites and across projects.

The Program Outcomes

The outcomes (or dependent variables) that are predicted when the necessary and sufficient conditions prevail are as follows:

- A mitigation or amelioration of unfavorable conditions for change, which, in turn, will result in...
- a change or changes in the educational program (school management, classroom instruction, etc.) which, in turn, will contribute to...
- improvement in the performance, achievement, or growth of children or adult learners (based on site-originated data, if available).

These outcomes define the long-term objectives of the R&D Utilization projects. It is also possible to identify shorter-term objectives which, under certain investigative circumstances, also constitute dependent variables.

These are related to the four areas in which the RFP calls for services:

- Improved identification of local needs;
- Increased sophistication in establishing criteria for selection of innovative programs;
- Increased use of information about R&D-based innovations; and
- Increased utilization of R&D outcomes.

Description of Information Requirements

The program evaluation is concerned primarily with gathering data that indicate, for the representatives of the specific school sites that have volunteered to work with one of the seven R&D Utilization projects, their views of involvement with the project at three critical time periods (T1, initiation of the project; T2, selection of R&D "outcome(s)" (innovation) for adoption/

adaptation; and T3, one-year follow-up after T2). These particular points were chosen to provide a longitudinal view of each site's project history with the lowest reasonable response burden to be imposed on each site.

In order to further reduce the response burden, data collection efforts were allocated disproportionately between two groups of sites. Out of the approximately 250 project sites involved, approximately 60 were selected judgmentally for more intensive "case study." The remainder were designated as "broad-level" or "non-case study" sites.

At each time (T1, T2, or T3), one key respondent (e.g., the school building principal, a head teachers, or a curriculum specialist) was asked to complete a (mailable) questionnaire that views, retrospectively and prospectively, the key respondent's perception of project activity at the school site. For all case study sites, personal interviews were conducted with approximately two to five additional persons, judgmentally selected to provide a more comprehensive view of other participants' perceptions.

The NIE Request for Proposals specifies additional project documentation that may be relevant to the overall program evaluation; however, the standardized instrumentation to be employed across all sites and projects consists only of the items listed in Figure 1 below.

Figure 1

R&D UTILIZATION PROGRAM CROSS-SITE INSTRUMENTATION

TYPE OF INSTRUMENT	TIME PERIOD		
	T1 - Project Initiation	T2 - R&D Outcome Selection Made	To Be Submitted Later T3 - One Year Follow-Up
Questionnaire	(1) T1 Questionnaire	(2) T2 Questionnaire (2a) T1/2 Questionnaire	(3) T3 Questionnaire
Interview Schedule	(4) T1 Interview Schedule	(5) T2 Interview Schedule (5a) T1/2 Interview Schedule	(6) T3 Interview Schedule

Note that T1 and T2 are event-contingent and have no specific calendar reference. T3 is arbitrarily defined as a one-year follow-up (or at the termination of project agreements for aborted sites). There is no set time for the T2 event, and the period between T1 and T2 may vary from zero to more than a year. Since some sites have been deliberately selected by some projects because they were some distance toward or at the point of selecting an R&D "outcome" for implementation, a special set of instruments (questionnaire and interview schedule) was provided to obtain needed T1 information retrospectively and at the same time that T2 information is collected; these are designated as T1/2 instruments, and they are used in lieu of both the T1 and T2 instruments. The T1/2 information requested is essentially the same as that on the T1 and T2 instruments, but the time reference is different.

The T3 instrumentation is part of this same family of forms and will contain many of the same type of questions, but time-referenced to capture the possibly different perspectives of principal respondents one year following selection of an R&D solution. However, since experience with initial program operation and evaluation may indicate the desirability of including further probes or elaborations of some certain questions of the T3 instruments, development of the instrumentation was delayed to provide experiential data in helping determine the content.

Data Users and Purposes

Since instrumentation was deliberately designed to aide the individual linking agent or linker team to gather and organize immediately relevant, site-specific information that should be helpful for planning/reviewing R&D Utilization

activities at each site, there are potentially several levels of data use, including the following:

- Site level--for planning/review of individual site activity
- Project level--for management review, activity quality control, formative evaluation, and project-level documentation
- Cross-project level--for formative and summative evaluation purposes (policy, management, and research)

Relation to Other Federally-Sponsored Evaluation Activities

The data collected in this study does not duplicate but builds upon several previous and currently ongoing studies. The following federally-sponsored evaluation activities represent some of the most significant related activities. Each provides important complementary information, but none deals directly with the primary focus of the R&D Utilization Program.

- The National Diffusion Network, a national dissemination system established by the Office of Education in 1974, in which "developer/demonstrators" (DDs) of programs approved by the Joint Dissemination Review Panel (JDRP) provide technical assistance to schools in the adoption of such programs. The DDs are "linked" to schools by "State Facilitators" in 46 states, the District of Columbia, and the Virgin Islands.
- The Pilot State Dissemination Project, inaugurated in 1970, in which seven field agents in three state-based organizations aided school practitioners in solving problems by drawing upon existing research information.
- Federal Programs Supporting Change (under the sponsorship of the U.S. Office of Education), conducted by the RAND corporation, looked at four change agent programs: Title III; Right-to-Read; Vocational Education, Part D; and ESEA Title VII, Bilingual Education. The purpose of the study, in brief, was to identify

the nature, permanence, and extent of dissemination of innovations that are associated with the foregoing programs and with various federal, state, and local practices. School district projects studied included ones with foci of reading, career education, bilingual education, classroom organization (e.g., open classrooms), and staff development.

- The State Capacity Building Program, established by NIE in 1975 to build comprehensive dissemination capacities within states. This program in 29 states focuses on building a comprehensive set of knowledge resources, developing means of linking educational client groups with the resource base and developing leadership and management arrangements which facilitate the provision of such services.

DESCRIPTION OF EVALUATION DESIGN

Description of Respondents

The primary focus of this evaluation study is on school sites and on the major participants at those sites which become engaged in school improvement. The primary unit of analysis is a group of school practitioners, typically located in a single elementary, intermediate, or secondary school building, but in some instances may involve teams of teachers, school principals, staff specialists, or other school administrators representing several schools as well as the school system central office.

Approximately 250 sites were recruited on a voluntary basis from among the school districts located in approximately 20 states.

Information regarding site activities was/is collected from the following types of persons:

- Principal Respondent (PR). One key person is selected for each site. In many instances, this person may be a building principal or head teacher; however, the key person may hold a number of different kinds of professional positions (e.g., chairperson of a high school department, director or supervisor of instruction, assistant principal, or guidance counselor).
- Other Site Personnel. In the instance of sites selected for intensive case study, 2-5 other persons are selected for field interviews at each of three points in time (T1, project initiation; T2, selection of an R&D outcome; and T3, one-year follow-up). These individuals may include any members of the site professional staff, and in some instances may also include participating parents or other lay community members. The composition of this group varies from site to site depending upon the specific character of site activities (e.g., the extent to which there is community participation in school problem solving).

- Linking Agent/Facilitator (LA). These external individuals are employed by the project to help school staff utilize the best knowledge, practice, or products available for planning and implementing educational program improvements. Linking agents may be located in a state educational agency (SEA), an intermediate service agency (ISA), or a laboratory or university department or center. The functions of the role vary, but may include providing assistance in problem definition, providing access to knowledge and materials, or assistance in implementation and use.

Data Collection Points

Information was collected from approximately 250 school sites which were recruited and served by one of the seven R&D Utilization projects. The NIE cross-project data collection effort is confined to three event times: T1, initiation of the project; T2, selection of R&D "outcome(s)" (innovation for adoption/adaptation); and T3 (one-year follow-up after T2). At each of these three points in time, one principal respondent (PR) at each site was/will be requested to complete a mailable questionnaire. If the site was selected for intensive case study, approximately 2-5 additional persons knowledgeable about the site were/would be interviewed at each point in time.

All instrumentation, with the exception of the transaction log, was submitted in the Supporting Statement for Cross Project Evaluation of the R&D Utilization Program, February 28, 1977. However, for the convenience of the reader, we have included the T1 and T2 questionnaires and the transaction log in Appendix B, since these instruments provide most of the data to be presented in this report.

Nature of the Evaluation

The total design for the evaluation of the R&DU Program was essentially a multi-level, longitudinal, "transactional" analysis of R&D Utilization project activities. Special attention was given to the interactions of context, input, process, and outcome variables at the school/site level, but there was also interest and concern in understanding and evaluating the organizational structure and programming dynamics that the R&DU projects employed to serve school client needs.

As previously indicated, there were three levels of inquiry: (1) policy questions, (2) management questions, and (3) research questions. This design assumed that the R&D Program evaluation would be participatory and dynamic, because many people would be involved and because it was intended to be "open" to new input from participants.

This design is easily subject to many interpretations (as well as misinterpretations). This is partly true because of the qualitative-quantitative (or the clinical-statistical) dimension--the overall design straddled a broad band, but with a decided qualitative bias.

Although questionnaires and interview schedules were employed as data-collection instruments, even they called for responses that were usually open-ended and called for interpretation, inference, or conjecture by respondents.

However, the deceptive aspect of this questionnaire and interview schedule instrumentation is that it calls attention only to the uniform questions which represent a common denominator among NIE and the seven projects. The case studies were predicated on the assumption that the individual project casewriters would go beyond the scope of information contained in the questionnaires and interviews and, employing a variety of methods depending on their particular

skills and experience, would collect additional information which might verify and amplify the standard instrumentation.

Focus of the Evaluation

Given the very large number of lines of investigation that are possible, NIE prepared a general and yet comprehensive evaluation design, Draft of the Design of the Evaluation of the Research and Development Utilization Program, to provide general guidance. The NIE Design document notes that first and foremost are the questions of outcomes: how well did sites, the projects, and the total program perform on all the outcomes variables? However, answers to such simple outcome questions are quickly followed by the need to interpret and explain the results that are relevant to policy, management, and research. These three lines of inquiry and the three major elements of the R&D Utilization Program paradigm--necessary conditions for effective change and implementation of R&D outcomes, prescribed tactics (development of potentially useful R&D utilization knowledge and service capabilities), and linkages (effective delivery of knowledge and services to schools)--are discussed at length in the Design document.

There are a number of common data analysis requirements. For example, to answer almost all of the questions required operational methods for measuring the:

- Independent or antecedent variables, including the nine conditions posited as the cause of change;
- The intervening or manipulated variables--the tactics and strategies associated with each condition and the use of appropriate linkage arrangements;
- Constraining or concomitant variables--these have not been previously discussed. These are variables over which the program has no control but are assumed to have major impact on the program's outcomes. They

include: per-pupil expenditure by the district and availability of external sources of funding, the socio-economic status of the children and community, size of the school and district, ratio of special administrators to total administrative staff, and community climate as it might be judged through such things as passage of bond issues, public demonstrations, etc.

- Dependent or outcome variables--those that are short-term or "proximal": increased precision of problem analysis, and increased awareness, selection, and use of relevant R&D outcomes; and those that are longer-term or "distal": changes in educational programs, mitigation of local problems, and improved student outcomes.

The analyses of these data to answer the evaluation questions requires methods for examining the relationships among the variables. Techniques include designs that show relationships among variables (correlations and factor analyses), the probability of observed outcomes as against outcomes expected by chance (analyses of variance, including statistical operations to partial out sources of variance), and simple descriptive (counts and percentages) averages.

Definition of Evaluation Variables

Antecedent Variables

There are three classes of variables which may be considered antecedent to the tactical or manipulable variable classes and the outcomes. Strictly speaking, these variables are simply less manipulable, but all tend to fall within the control of each R&DU project as a result of strategic choices it makes with regard to:

- Organization of the R&DU project;
- Organization of R&DU resources and services; and
- Selection of school sites.

The pre-existing conditions (see page 10 for definition of "conditions") believed to control change are hypothesized to be necessary and sufficient to support change that leads to improvements in educational practice. From an evaluation or research perspective, these conditions represent the "independent" or "antecedent" variables of the design, and are as follows:

- REASONS for change
- KNOWLEDGE
- an INNOVATION
- an ORGANIZATIONAL ENVIRONMENT
- MATERIAL RESOURCES
- HUMAN RESOURCES
- a PLAN
- sufficient TIME
- an OPPORTUNITY or triggering mechanism

Intervening or Manipulated Variables

From an evaluation perspective, the tactics and strategies for mitigating unfavorable conditions constitute "intervening" or "manipulated" variables. In the presence of the nine conditions described above, it is hypothesized that change will occur. In the absence of such conditions, it can be said that there is a discrepancy between the conditions necessary for change and those that exist. When discrepancies exist, an agent (an individual, an organization, a "system of organizations") can undertake to provide services and/or stimulate internal capacity to correct the deficiency. When applied from outside the school, these services constitute a set of "tactics" or support services. For example, a variety of information tactics can be deployed when knowledge is deficient. Training or the use of consultants can be arranged when human resources are inadequate. Financial resources can be supplied when they are deficient. Innovations can be made available or modified when there isn't one available from within. These

tactics can, in turn, be implemented in a pattern or strategy such as the one implied in "systems," organizational development, or capacity building approaches.

Outcome (Dependent) Variables

The major evidence regarding R&DU project outcomes will not be available until T3 data have been collected on all participating sites. At that time, evidence will be collected relating to:

- Mitigation or amelioration of unfavorable conditions for change, which in turn may result in...
- a change or changes in the educational program (school management, classroom instruction, etc.) which, in turn, may contribute to...
- improvement in the performance and achievement of children or adult learners (based on site-originated data, if available).

These outcomes define the long-term objectives of the R&D Utilization projects. It is also possible to identify shorter-term objectives which, under certain investigative circumstances, also constitute dependent variables:

- Improved identification of local needs;
- Increased sophistication in establishing criteria for selection of innovative programs;
- Increased use of information about R&D-based innovations; and
- Increased utilization of R&D outcomes.

As previously stated, most of these outcomes are to be measured at T3 and/or T2 phases of this study, but we were able to gather a small sampling of T2 data (reactions to type of help sought and type of agency gone to for help, relationship between barriers and transactions). For further information, see FINAL DATA ANALYSIS AND RESULTS, page 50.

Sources of Data for Evaluation Variables

The evaluation instruments are designed to collect data on the antecedent, strategy, and outcome variables described above. Figure 2 indicates the data collection instruments used for each of these types of variables.

Figure 2
SOURCES OF DATA

	TYPE OF DATA	TYPE OF RESPONDENT	INSTRUMENTS USED (T1, T1/2* T2)
SITE-SPECIFIC INSTRUMENTATION	<u>Antecedents/Conditions</u> - forces to action - site problem <u>Strategies/Tactics</u> - agencies sought for help <u>Outcomes</u> - appraisal of process	Principal Respondent (PR) - Superintendent - Principal - Teacher - Administrator - Specialist	<u>T1 Questionnaire</u> - printed instrument with instructions developed across 7 projects; mailed, but in majority of cases delivered, by Linking Agent (LA). <u>T2 Questionnaire</u>
	<u>Antecedents/Conditions</u> site problem	Linking Agent/Facilitator	<u>Commentary</u> - included instructions and examples; a review of and commentary on each site's questionnaire.
	<u>Antecedents/Conditions</u> - barriers to solution <u>Outcomes</u> - change in conditions (barriers) from T1 to T2	Principal Respondent Linking Agent/Facilitator Interviewees (I)	<u>Q-score</u> - included instructions; described barriers to change.
	<u>Antecedents/Conditions</u> - forces to action - site problem <u>Strategies/Tactics</u> - agencies sought for help	Interviewees - Superintendent - Principal - Teacher - Specialist/Supervisor/Coordinator - Administrator - Aide/Librarian - Parent	<u>Interview Schedule</u> - included instructions and probes; based upon questionnaires to acquire further knowledge from "other" site-related persons.
PROJECT-SPECIFIC INSTRUMENTATION	<u>Strategies/Tactics</u> major transactions	Project Personnel	<u>Transaction Log</u> - included instructions and examples; a taxonomy in coding site's major transactions.
	<u>Strategies/Tactics</u> site activities/process	Project Personnel	<u>Problem Identification Reports (PIDs)</u> - project-specific reports; summary of data geared (basically) to the instrumentation, in addition to group process/skills, level of effort, etc.

* A special set of instruments T1/2 were designed to obtain information retrospectively on T1 at the same time that T2 was collected, if necessary. However, the need did not arise.

DEVELOPMENT OF DATA COLLECTION INSTRUMENTS

In cooperation with NIE staff and the seven R&D Utilization project Evaluation Directors, FWL developed instrumentation or procedures (described later in this section) which involves three levels of analysis: a broad level study, selected site case studies, and selected linkage case studies. Drafts of instruments were reviewed by NIE and the seven R&DU contractors at a meeting in December, 1976. FWL made necessary revisions and submitted these with a Supporting Statement package in February, 1977.

Each of the three levels includes different types of instruments and procedures at different points in time. Each is focused at a different way of looking at the program. Some of the same questions are asked across each level, and different questions are asked in each. In effect, these levels represent different "slices" through the operational sphere of the program. The analyses are designed to look across these levels of inquiry in order to strengthen our understanding of the validity and reliability of the observations made.

A description of all data collection instruments is provided so that the part that this instrument plays may be seen in its complete context.

1. The Broad Level Study

This is a study of all participating sites. The data for this study are based on: (1) a Principal Respondent (PR) questionnaire delivered to its site PR by a linking agent/facilitator as early as possible to each site (modified forms of the questionnaire were to be mailed at two later times in each site's R&D project "life"); (2) a review of and commentary on each site's questionnaires by project staff; (3) a monthly summary of LA or other project transactions with each site, kept by each project; and (5) a short recap of activities at each site at the end of each major phase of the project's involvement at the site.

1. The Broad Level Study

A. The Questionnaire

A printed instrument developed across projects is distributed to each principal or primary contact at each site served by all seven R&D Utilization projects. Projects are asked to make every effort to deliver the initial form of this instrument in person in order to explain the importance of completing the instrument, stimulate the respondent's interest in some of the questions raised in the instrument, and answer any questions. It can be mailed, however. The two subsequent follow-ups can also be mailed. These three questionnaires (actually one questionnaire with two modified follow-ups) are the only questionnaire data collected directly from school personnel. They should require no more than one-half hour to complete.

The same respondent completes each instrument (if possible). This individual is a site-based project participant. S/he has been selected by the project contact person as the most knowledgeable individual about the site and its connection with anticipated project activities. In most cases, this is the school principal--hereafter named as the "principal respondent" (PR).

The first questionnaire was delivered (or mailed) as soon as technically possible. The second questionnaire (T2) occurs as close as possible to the time after the site has established its goals, reviewed alternative courses of action, and decided upon one. It is mailed before implementation activities begin, if possible. A guidepost to this T2 event might be the ordering or securing of materials associated with the innovation selected

A. The Questionnaire (continued)

for implementation.* T3 will occur one year after T2 or later, but no later than the end of the project contracts. NIE may later contract for a two-year-later (T4) follow-up at selected sites.

Project-level analyses of the data gathered from the questionnaires are not required as a deliverable to NIE. The completed, original instruments are delivered in their "raw" or copied form, although analyses of the data may be conducted at the project level as needed for project purposes. A contractor to NIE will perform all program-level analyses. Projects were asked by FWL to clarify data on completed forms where it was unclear. Particularly in the case of mail contacts only, the projects were requested to provide clarifying information by calling the respondent by telephone.

● T1 Questionnaire

In planning the possible R&D Utilization project services that might be useful to help school sites improve, principal respondents at each site described the problem they were facing in their own words.

An explanation of the questionnaire accompanied the instrument from each of the seven projects addressing the following points:

- A brief description of the project's purposes in helping the site is provided;
- The effort is directed at improving the utility and use of R&D outcomes;
- The questionnaire is needed to get information that can be used in helping the site, and to also provide a base for examining the effectiveness of the project across sites; and

* A T1/2 Questionnaire is provided to handle situations where sites are already at the R&D outcome selection state when data collection is initiated.

● T1 Questionnaire (continued)

- The site is informed that the T1 Questionnaire would be followed up at two other times--about the time they had decided to accept/adopt/adapt/reject a specific innovation, and again about a year later.

The questionnaire is divided into four sections, as follows:

Section I: Problem Identification (requires open-ended responses). The principal respondents were asked to fill in seven short responses to questions about the problem identified (reading, mathematics, career ed) which covered the following:

- The subject of the problem (e.g., discipline);
- Probable cause of the problem (e.g., lack of knowledge of the best program/materials to use);
- Those most affected by the problem (e.g., students, teachers, etc.);
- Evidence of the existing problem (e.g., declining test scores);
- How and by whom was the problem identified (e.g., student records--teachers);
- Length of existence of the problem (e.g., forever); and
- Accepted evidence that the problem has been reduced or solved (e.g., improvement of test scores).

Section II: The Program (requires open-ended responses). Two questions were covered in this section as follows:

- What has been done during the past two years to solve the problem (e.g., very little, but some teacher training)
- Now (at this time) what would you like to change in order to solve the problem (e.g., make changes involving organizational or knowledge/expertise outcomes)?

Section III: Problem Solving Activities (requires simple fill-in-the-blank or check marks). This section contains three questions:

- The 39 barriers derived from the nine conditions (previously discussed);
- The name(s) of agencies and type of help sought over the past two years in order to help solve the identified problem; and

Section III: Problem Solving Activities (continued)

- A list of possible forces or pushes to resolve the problem (e.g., community and parent pressure to do something (rated 4 = important).

Section IV: R&D Products (requires write-in responses). This section contains Educational Research and Development products which were specified by NIE.*

- The PR was asked to check each product as: never heard of it, heard of it, reviewed it, saw it in use, and/or used it.

As previously indicated, the reason for collecting the above information at T1 is to examine how the respondent's perceptions of the problem change over time. The assumption is that at T1 the level of sophistication of the response would be quite low, while at T2, significant differences in the level of sophistication would possibly be visible.

B. Linking Agent/Facilitator's Commentary

The commentary is a printed instrument including instructions and guidelines for the linking agent which explained the:

- Overview of the R&D Utilization research effort;
- Overview of the LA's role in the research process;
- Confidentiality of the commentary;
- Function of the commentary;
- Time needed to complete the commentary;
- Instructions for the commentary; and
- Examples of principal respondent's answers and comments on them.

The commentary is an exact duplicate of the questionnaire filled out by the principal respondent.

* At T2, this section is replaced with Problem Refinement and Appraisal of the R&D Utilization Process.

B. Linking Agent/Facilitator's Commentary (continued)

The purpose of the commentary (as well as the questionnaire) is to provide external support to schools trying to improve their educational programs through the use of research-based findings and products. An important element of this program is the examination of the entire adoption process from the practitioner's point of view. Therefore, resulting information not only benefits the practitioner, but the linking agent as well, in helping him/her gain insight concerning the site's problem(s) and provides the linking agent with data for providing appropriate support services to the site.

The linking agent obtained the respondents' questionnaires from the individual sites s/he worked with and checked the instrument for completeness of the data. The linking agent's role is to check for:

- Elaboration--adding more information to give a fuller picture of the site than that provided by the respondent
- Interpretation--providing the linking agent's perception and/or interpretation which may or may not agree with that of the principal respondent.

It should be noted that FWL designed the commentary for agreement/disagreement and that ample space was provided for linking agents' comments.

C. Instructions and Interview Schedule for Other Site Respondents

The Interview Schedule is a printed instrument accompanied by instructions for the interviewer (project personnel). The principal respondent helped the individual projects to select the interviewees (I) and informed them of the date and time the interview was to take place.

The interviewer first read the principal respondent's questionnaire (on which the interview schedule was based).

C. Interview Schedule (continued)

The interview schedules require detailed answers during the interview. Therefore, probes were developed for more detailed information. Some general probes were:

- On what basis do you make that statement?
- Could you give me an example of that?
- Perhaps you could rank-order those problems so we can tell which are most important.

This interview schedule was designed by FWL to complement the questionnaire, as well as the commentary, and with the expectation that (after summarization of data from all these instruments) that the project will then have more indepth information in documenting the case history of the site. (Site Case Studies will be discussed later.)

D. Q-Sort of Problem Solving Activities

Again, this is a printed instrument with attached instructions for the respondents.

The Q-sort is a list of 39 barriers (derived from the nine conditions) which are thought to be potential barriers to successfully dealing with the problem. This list of barriers was developed to help sites identify a wide variety of areas where sites may need help and to provide a useful means for describing respondents' perceptions of help needed.

<u>Instruments</u>	<u>Respondents</u>
Questionnaire, Section III	Principal Respondents (PRs)
Separate Q-sort	Linking Agents (LAs)
Interview Schedule for Other Site Respondents	Interviewees (Is)

E. Transaction Logs

The Transaction Log is a printed, pre-coded instrument which includes instructions and examples.

The log is intended to help document all major transactions between an individual project and the sites with which each project works. Because of the variety of strategies and tactics that were employed by the seven projects, it was difficult to develop a precise, comprehensive definition of "major transactions." Given that this log is the only daily, ongoing record of project activities, FWL felt the necessity for repeated communication with several of the projects in order to clarify the intent and use of the transaction log data, and to explore ways of modifying the form to meet project needs while preserving the ability to make cross-site/cross-project comparisons.

After final revisions were made, the log included:

Purpose: For the purpose of this log, a major transaction is defined as a delivery of a service by the project to a school/site.

Sections of the Log:

1. Site Personnel (e.g., 2 teachers were involved)
2. External Personnel (e.g., project-related staff, nonproject-related staff)
3. Transaction Period (i.e., date initiated; date completed)
4. Project Effort (i.e., number of hours or minutes worked directly on transaction, including preparation time)
5. Transaction Initiator (i.e., project-related personnel, site/school personnel, or jointly initiated)
6. Form of Contact (i.e., form of request; form of delivery)
7. Intent of Services Provided (e.g., conflict resolution or mediation)
8. Conditions Addressed (rank-ordered; knowledge, plans, etc.)

Sections of the Log (continued):

9. Site Problem Solution Phase (e.g., problem definition, defining solution search criteria)

For the complete transaction log, see Appendix B.

F. Problem Identification Reports (PIDs)--developed by NIE

The Problem Identification Report is written by project personnel describing the site-specific problem identification process in chronological order, the conditions that the project believes must be addressed if the problem is to be resolved, the services the project proposes to render through the process, and a listing of the other services that the site might arrange for itself or that will be provided through some type of linkage with other organizations.

The report describes the summary statement of the problem, problem priorities, what past efforts have been made to deal with the problem, involvement of persons and their roles in the process, a chronological order of events in the overall process, evidence examined, solution selection criteria, and the major input sources for the PID data provided. (See Appendix D for content analysis of the Problem Identification Reports representing all seven projects.)

2. Selected Site Case Studies

The purpose of this level of the evaluation effort is to examine the projects' outcomes in more detail and with more sophistication, to define the specific tactics used and their costs more precisely than is possible from analyses of the broad level study. The data gathered from these 60 sites* can also be

* FWL received only 32 sets of case studies.

compared to the data from the questionnaires from the broad level study to make judgments about the validity of that data collection effort.

The data upon which case study efforts will be based includes:

- The collected questionnaire data from each of the 60 sites resulting from their inclusion in the broad level study;
- Two to five sets of the T1, T2, and T3 interviews from each of the 60 sites; and
- Original case reports on each site developed independently by each project to explain the findings from each site; included in this effort are detailed descriptions of the results of any locally-sponsored evaluations at each of the study sites.

The selection of these site case studies was based upon these criteria:

- Representativeness of the site of the project's approach-- i.e., at least one site should be chosen because the project believes it best exemplifies what the project is trying to do.
- A range of sites based upon the previous history of innovativeness at the site and the pervasiveness of the problem at the site.
- The mix of conditions or treatments addressed--i.e., a few sites where only one or a few conditions are unsatisfactory are included along with some that have moderate and large numbers of unsatisfactory conditions. If possible, the conditions involved across the selected sites should represent as wide a range of the different conditions as possible.
- The quality of the LEA-sponsored evaluation being conducted at the site level.

3. Selected Linkage Case Studies

The broad level study and the site case studies are focused on the school sites. It was expected that some of the value of the R&D Utilization Program

would not be visible at that level. Many of the R&DU projects planned to devote part of their effort toward establishing or strengthening the relationships between state or national agencies providing project leadership and intermediate agencies such as an intermediate unit, a regional office, or a teacher center. Many of the projects' plans also call for changes in the relationships between these two levels of agencies and other agencies such as regional educational laboratories and R&D centers and/or colleges of education. Long-term beneficial outcomes from changes in these relationships can be expected that are not tied directly to site-level outcomes.

The data collection effort includes 14 case studies of a complete set of linkages from the project to a site. In the case of an SEA contract, this involves a study of the relationships between the SEA, the LEA, and the school, and relationships of that "chain" of relationships to other organizations such as regional laboratories and colleges.

For these case studies, some of the following types of data are being collected:

- A retrospective case history of the linkage chain related to topics on this list;
- Description of the form of the relationships--contractual, legal, regulator, informal, etc.
- Patterns or strategies for using intermediate agencies;
- Statement of the purpose of the relationship--exchange of information, mutual expediency, assigned work tasks, etc.
- Substantive focus--subject matter, etc.
- Outline of the organizational echelons involved;
- Counts of the frequency and duration of the activities that characterize the linkage;
- Evaluation of the stability of the relationship;

- Log of major transactions during the project;
- Measures of the attitudes and perceptions of staff involved on both sides;
- Success observed in achieving mutually set goals;
- Costs of the relationship;
- Difficulties of arranging relationships; and
- Control of the relationship--one-sided, shared, etc.

Each project is requested to focus attention on just two specific sets of these linkage relationships or "chains" for the case studies. Again, the studies are performed to the specifications of the individual projects and no standardized instruments are required.

DATA ANALYSIS

Given the open-ended character of much of the instrumentation (transformation of qualitative data), the following is a discussion of the Coding Manual and Coding Scheme developed by FWL staff.

Data Transformations

Although some of the data involved ratings or categorization of events and is easily quantifiable, much involves open-ended questionnaire responses and requires coding into quantified forms.

A group of six FWL staff members worked intensively on the design, modification, and refinement of the Coding Manual and Coding Scheme.

In developing the coding system for the qualitative data, FWL tried to maintain the integrity of the responses by using categories which were developed from the responses themselves that at the same time were of sufficient scope to include all possible responses. The coding process necessarily reduced the scope of sensitivity of the responses, with some categories being less specific than others.

The coding scheme was developed as a linguistic analogue to the respondents' sentences. This means that the coder had to approach the process as one of transformation and reconstruction of the respondents' answers to fit the coding scheme. In general, the format for complex questions allows the coder to record a modifier, a subject, and an object. For example, the response to the question, "What is the problem you are facing?" may be:

"Children can't read."

Transformed according to the above format, the sentence would read:

"Insufficient reading skills among children."

The modifier is: *insufficient*
 The subject is: *reading skills*
 The object is: *children*

Several questions frequently elicit multiple responses. In specifying the problem, for example, respondents often list two or three problems. To accommodate this situation, some questions in the coding booklet are followed by three boxes permitting the coder to record up to three separate responses. In cases where respondents gave four or more responses, the coder exercised judgment as to which response(s) to omit.

At several points the coder was asked to judge the clarity of the respondents' statements. Accommodation was made for:

No response: Space following question was left blank.

Uncodable: Respondent has made statement, but it has no relationship to the question.

Inferred: Somewhat clear; coder relied on contextual cues to record response.

Clear: Statement is unambiguous and straightforward; logically satisfies demand of questions.

Clear and elaborated: Statement not only satisfies question, but provides information beyond the question's requirements.

Typically, inferences were made on the basis of information contained in responses previous or subsequent to the one in question. When in doubt, therefore, the coder sought additional information by reading the entire protocol (Parts I and II). Elaboration occurred when information was given at a level of specificity beyond that of the coding scheme.

The following section discusses interim findings in data analysis using this coding scheme for qualitative data, as well as discussing quantitative findings of the transaction log.

INTERIM FINDINGS IN DATA ANALYSIS

Transaction Logs

The Transaction Log, instructions, and examples were submitted to NIE and the seven R&DU projects for their use and/or pilot testing. The transaction log was intended to help document all major transactions between an individual project and the sites with which each project worked. Because of the variety of strategies and tactics that were employed by the seven projects, it was difficult to develop a precise, comprehensible definition of "major transactions." Therefore, repeated communication with several of the projects attempted to clarify intent and use of the transaction log data, and to explore ways of modifying the form to meet project needs while preserving the ability to make cross-site/cross-project comparisons.

Preliminary analyses of transaction logs were reported in August and September. The two reports covered 378 transactions with 71 sites in four of the seven R&DU projects. These analyses were based on the standard transaction logs that were used only during the last two or three months of the 1976-77 school year. Consequently, for many sites there was a void between "start-up" and the first transaction report for the site. Therefore, these transactions only represented the last few months of the school year as opposed to the overall total history of site transactions.

Some of the most interesting findings of the first four projects reporting were:

- Project personnel initiate nearly half of the transactions (43 percent); site personnel (28 percent); and jointly initiated (29 percent).
- The telephone is the most popular channel for requests (64 percent) and for delivery (40 percent).

- The great majority of site personnel involved in the transactions are either teachers (53 per 100 transactions) or school principals (49 per 100 transactions).
- Among project personnel, linking agent/facilitators are most heavily involved (85 per 100 transactions), followed by information specialists (22 per 100) and developers/trainers (8 per 100).
- Three types of services account for the majority of transactions: provide information (59 percent), planning (47 percent), and decision-making (33 percent). (More than one type of service may be provided by one transaction.)
- The conditions most frequently addressed are: lack of knowledge (46 percent), needs for plans (36 percent), and need for material resources (35 percent). (More than one condition may be addressed.)
- The transaction log data for the last few months of the 1976-77 school year indicate that the majority of the transactions are already in the solution search and selection stage, but that relatively few transactions dealt with implementation phases.
- Level of project effort per transaction averaged a little over three hours, and averaged nearly 16 hours per site for the reporting period.
- Level of effort tends to vary by site phase, type of service provided, and condition addressed.

(Indepth report submitted September, 1977.)

T1 Quantitative Data Analysis

During the months of May and June, 1977, preliminary analysis of easily quantified T1 data (knowledge of R&D products, importance of forces for change, character of barriers to successfully dealing with site problems, type of help sought in the past), based on T1 Questionnaires and Q-sorts received by this time, was completed. The results were reported to NIE and to the individual projects in a pilot issue of the R&D Evaluation Exchange Bulletin and in an oral report, supplemented with handouts, during the June Casewriters' Conference.

T1 Qualitative Data Analysis

Most of the T1 instrumentation involved open-ended, write-in responses. A content analysis coding scheme (previously described) was developed to analyze this qualitative data information. Work proceeded and was completed on the content analysis Coding Manual and the coding scheme for the qualitative data, which were then used in conjunction with all T1 qualitative protocols. As previously stated, six FWL staff members worked intensively on the modification and refinement of the coding scheme and on the actual coding in order to report the results at the June Casewriters' Conference. By the close of the quarter, virtually all coding of T1 questionnaires, commentaries, and interviews received up to that time had been completed, and keypunching of the data had been initiated.

By the Fall of 1977, preliminary analysis of the site principal respondents' views of their site (T1 Questionnaire, Sections I and II) had been completed for a total of 154 sites (questionnaires) representing all seven projects. A few highlights of the findings follow (more detailed information was submitted in September, 1977). In planning the possible R&D Utilization project services that might be useful to help school sites improve, principal respondents at each site described the problem they were facing in their own words.

T1 Questionnaire Section I: The Problem

1. What is the problem you are facing?

- Most respondents felt the problem involved insufficient (42 percent) or non-existent (35 percent) materials, resources, etc., rather than trouble with the existing situation. The most common content category problem involved curriculum or expertise.
- A large number (73 percent) of the respondents mentioned students as most involved with or affected by the problem. Teachers were mentioned by 22 percent, while all others, such as specialists and administrators, account for only 5 percent.

2. What do you think is the cause of the problem?

- It is interesting to note that, although approximately one-third of the respondents mentioned a problem with curriculum, only 9 percent feel the curriculum is a cause of the problem. Twenty-two percent identify expertise and 12 percent identify material and money resources as causes. All other categories were mentioned by less than 10 percent of the respondents.

3. Who is most affected by the problem?

- Responses to this direct question support those reported spontaneously in the problem definition question--that students appear to be most affected, teachers next, and others rarely.

4. How was the problem identified, and by whom?

- The respondents indicated tests, surveys and inventories, meetings, and observations were used (20-30 percent each) to identify the problem, while intuition and records (e.g., review of documents, cumulative files) were rarely used.
- Most problems were identified by teachers (54 percent), but task forces (23 percent), administrators (20 percent), specialists (15 percent), and students (12 percent) also identified problems. Consultants (5 percent), the school board (2 percent), and district personnel (3 percent) were rarely mentioned, and in fact identified fewer problems than did

4. ● (Continued) parents (8 percent). (Note: more than one class may be mentioned; hence total percentage exceeds 100.)
5. What evidence is there that the problem exists?
 - Tests are used most often (43 percent) as evidence of a problem, with observations next (20 percent). Other forms of evidence employed are: surveys and inventories (13 percent), discussions (12 percent), review of records (7 percent), and intuition or personal judgment (5 percent).
6. How long has the problem existed?
 - The majority of the respondents did not provide a numerical answer, but instead gave statements such as "a long time" or "forever."
7. What would you accept as evidence that the problem has been solved?
 - The most typical responses regarding evidence that the problem is solved involve: changes in students' competence in cognitive skills, teachers' and others' commitment to administrative procedures, and teachers' commitment to programs, use of resources, and competence in cognitive skills.

T1 Questionnaire Section II: The Program

1. What has been done during the past two years to solve the problem?
 - The majority of the respondents indicated that they have tried to bring in new curricula rather than change what they had or develop their own.
2. At this time, what would you like to change in order to solve the problem?
 - Fewer people would now like to alter their curriculum than have in the past two years, and more people would like to make changes involving organizational or knowledge/expertise outcomes. There is also a greater emphasis on adaptation or alteration than on introducing or adopting new content or methods.

Case Studies Preparation and Activities

The R&DU Program Evaluation Design assumed that the previously discussed case studies would be the products of professional casewriters, and consequently, considerable latitude was allowed within the general requirements outlined in the Design document, and it was assumed that the linkage case studies would be handled in conjunction with the general plan for coordination of site case studies.

Therefore, FWL prepared and distributed materials in advance of the June Casewriters' Conference (1977) and conducted workshops in cooperation with NIE staff, professional casewriters, and representatives from the seven projects.

First Casewriters' Conference

The First Casewriters' Conference and workshops were held in Atlanta, Georgia, during March 14-15, 1977. The purpose of this meetings was to:

- Introduce and familiarize external case study writers with the R&DU Program, and the program's goals and objectives;
- Brief the casewriters on the overall design and purpose of the case studies;
- Discuss possible alternative formats and methodologies; and
- Arrive at an agreement of a general comparable outline of site-related topics/items to be discussed in the studies.

In preparation for this meeting, Far West Laboratory forwarded the following materials to the seven project case study writers:

1. a tentative agenda;
2. the Supporting Statement (unofficial package), containing an extended description of the evaluation and, in appendices, all of the cross-project instrumentation relating to sites (questionnaires, interview schedules, linking agent commentary, and Q-sort instructions). From

the perspective of case studies, they were particularly asked to read pages 24-35, which were the most relevant;

3. the Extended Discussion of the R&DU Program Evaluation Questions;
4. the Research and Development Utilization Program (Extract) for each of the seven projects;
5. a brief description of one of the seven R&DU projects;
6. the draft outline of an R&DU Project Case Study Summary volume;
7. the "Focused Study of Linkages," a brief outline for discussion only;
8. the "R&DU Program Site Case Study Data Elements," based on an examination of the RAND case studies;
9. Federal Programs Supporting Educational Change, Vol. III: The Process of Change, a reproduction of the RAND report summarizing their case studies, with an appendix that includes an outline of data elements which were incorporated in the outline in #6;
10. The Literature on Planned Organizational Change: A Critical Appraisal, summarizing the content of a chapter found in Gross, N., Giacquinta, J.B., and Bernstein, M., Implementing Organizational Innovations: A Sociological Analysis of Planned Educational Change, New York: Basic Books, 1971 (Chapter 2).

The Second Casewriters' Conference was set for June 1977, and it was decided that all first draft copies of case studies would arrive at FWL on or before May 15 if FWL was to provide feedback for this conference; if not, all case studies were expected to arrive no later than June 1.

Second Casewriters' Conference

The Second Casewriters' Conference and workshops were held June 20-24, 1977. Prior to the conference, considerable time was spent in contacting each of the seven R&DU contractors, reminding each to have their case studies in the hands of FWL staff by June 1, 1977. Much effort was required in order to reproduce

and mail the 14 case studies to NIE, the seven projects, consultants, and case-writers between the date of the first case study arrival and June 15, the date of the arrival of the last case study. FWL's turnaround time for the last few case studies was one day. Several times it was necessary to send the case studies air mail/special delivery, in order to assure receipt by the participants before the start of the conference.

Constant contact through additional follow-up phone calls and the mail was maintained between FWL and all persons concerned during this time period, in order to keep them apprised of receipt of their respective case studies (as well as those of others).

Two weeks before the conference, casewriters were contacted by phone in order to anticipate their needs, wants, and expectations of the conference. Given the short turnaround time, FWL's ability to analyze the case studies was severely limited; however, a brief summary of the linkage case studies was presented at the conference and handed out to each participant (previously submitted).

Site Case Studies. The site case study outline developed during the March 14-15, 1977, casewriters' conference in Atlanta proved to be somewhat restrictive for the casewriters. During the Second Casewriters' Conference in Arlington, the outline was abandoned. FWL agreed to draft a set of definitive questions to be addressed by the site case studies and to develop a more general outline for the studies. These two items would guarantee some comparability of content and focus of studies across the seven projects. The definitive questions to be addressed by the studies were difficult to develop, given the somewhat varying viewpoint of the seven projects. The technique used was a modified interactive Delphi, which had the advantage of involving respondents--who were also a major audience for the results--in the problem itself. Rather than

assuming objectivity, it was recognized that the respondents were practitioners of the questionnaire survey method and not likely to be a non-involved "objective" population.

The first iteration (including instructions) of the Delphi was completed and mailed to the seven projects, casewriters, and NIE staff in Fall 1977. At the December 1977 meeting with the projects, NIE, FWL, and Abt Associates, it was decided that FWL should complete the findings of the first iteration on hand and forward all existing Delphi information to the new study contractor.

Linkage Case Studies. An outline for the linkage case studies was developed by Miles and Sieber at the June conference. The outline was drafted using inputs from the R&DU Program Evaluation Directors and casewriters, NIE, and FWL consultants. The draft outline was then revised through sessions with linkage casewriters, and the final outline was submitted in early Fall, 1977. It represented a framework for writing, but was not intended to be restrictive.

It was agreed that a follow-up meeting of casewriters was very desirable when each had completed a draft of his/her first study. This meeting, under the sponsorship of the new study contractor (Abt Associates, Inc.) is scheduled to be held in Spring or early Summer, 1978.

FINAL DATA ANALYSIS AND RESULTS

In an attempt to answer the evaluation questions important to this study, FWL collected and analyzed data from site and project personnel with the intent of acquiring information about: perceptions of antecedent conditions that could influence identification and implementation of innovations to solve site problems; strategies or transactions used to help solve those problems; and outcomes of those strategies. For each of these variables, several sources of information were available, including (in some cases) perceptions of site "principal respondents" (PR's), linking agents (LA's), and other interviewed site respondents (I's).

Information about antecedent conditions includes measures at T1 (initiation of the project) of: (1) PR familiarity with R&D products, (2) PR perceptions of forces promoting site action, (3) the types of help sought by PR's, (4) perceptions by PR's, LA's and I's of barriers to problem solution, and (5) perceptions by PR's, LA's, and I's of the site problem and past attempts to solve it. In addition to overall means for each of these measures, comparisons were made between the seven projects and between the different types of respondents. (In the tables and discussions involving project differences, project identities are not revealed; each project will be told its identifying number privately.)

Most of the information about strategies is derived from the transaction logs completed by project personnel. Comparisons of such variables as type and level of effort are made between projects, between linking agents within projects, and between sites within linking agents (some linking agents serve several sites) for strategies in each of the three phases of problem solution: problem identification, selection of solution, and implementation. Though the transaction logs are the main source of information about strategies, additional

information is obtained from "type of agency contacted for help" on the T1 Questionnaire and the descriptions of events by project personnel in the Problem Identification Reports (PIDs).

Most of the information on outcomes (e.g., amelioration of the problem, use of R&D outcomes) will not be available until T3 (i.e., data collection one year after site selection of the innovation(s) to use, which is defined as T2); however, there is some outcome data available from initial T2 work. Data on change in perceptions of barriers from T1 to T2 and degree of satisfaction with the problem solution activities by PR's is presented as some indication of outcomes measurable at T2.

Although collection of further T2 data and of T3 data by those continuing this study will enable much more intensive investigation of the relationships between antecedents, strategies, and outcomes, we will describe our preliminary analyses of relationships between antecedents and strategies.

At the beginning of each section (i.e., Antecedents, Strategies, Relationships Between Antecedents and Strategies, and Outcomes) will be found a brief summary of the major findings and conclusions relevant to that topic. For the reader interested in actual data and detailed analyses, a discussion and data table follow this summary for each section.

I. ANTECEDENTS (i.e., conditions at site with potential influence on problem solution)

The "antecedent" variables in this study are conditions, perceptions, and needs at a site which precede and have potential influence on strategies and outcomes of attempts to solve the site's problems. At T1 (project initiation), we gathered the following information about antecedents: (A) site principal

respondents (PR's) rated their familiarity with selected R&D products, (B) site PR's rated the importance of forces' influence on site action, (C) site PR's indicated the types of help they most often sought from external sources, (D) site PR's, other interviewed site respondents (I's), and linking agents (LA's) rated the importance of potential barriers to problem solution, and (E) PR's, I's, and LA's described the nature of a site's problem and past attempts to solve it. All of the information from PR's was obtained from ratings and descriptions made on the T1 Questionnaire. The information about perception of barriers from LA's and I's was obtained from their Q-sorts of barriers. I's were interviewed for their perceptions of site problems and past attempts to deal with them. Information about LA perceptions of site problems was derived from their written commentary on PR descriptions and from the Problem Identification Reports (PIDs) in those cases where they were written by an LA.

A. Summary of data on antecedent conditions

1. PR's have little familiarity with R&D products (at least as represented by the eight "high visibility" products included in the T1 Questionnaire).
2. Most forces included in the questionnaire are perceived by PR's to be important pushes toward problem solution action, especially new money and staff belief in the problem.
3. As reported by PR's, projects have different patterns of type of help sought, with some seeking many kinds while others seek little help of any kind. However, for all projects, help in human resources and training and information is most frequently sought, while help in organizational development is rarely sought.

A. Summary (continued)

4. Although the 39 barriers to problem solution on the questionnaire were more or less derived from Hutchins' "nine conditions," they appear to be perceived by PR's and LA's to represent only four main categories of barriers: information about innovations, securing money, interpersonal relations, and problem identification. A fifth category, preparation for innovation, is less well-defined.
5. Information about innovations and securing money are consistently perceived by PR's, LA's and I's as being important barriers to problem solution for which outside help is needed.
6. Interpersonal relations and problem identification are consistently perceived by PR's, LA's, and I's as being unimportant barriers for which no outside help is needed.
7. Although there is considerable agreement in perceptions of barriers between PR's, LA's, and I's, LA's consistently rate nearly all barriers as more in need of help than do PR's.
8. Very few barriers are rated "intractable;" the few that have a significant proportion of such ratings involve obtaining salary increases and additional personnel.
9. There are few large or consistent differences in barrier ratings by job position of rater (teacher, administrator, specialist, director).
10. On the T1 barrier ratings by linking agents, for most barriers there are significant differences between linking agents (but not between projects) which are stronger than differences between sites. This suggests that linking agents have pre-dispositions to perceive or report certain types of barriers.

For those readers interested in more detail than is included in the preceeding summary of findings, a presentation and discussion of the data on antecedents follows. A summary of the findings on strategies may be found on page 93.

B. Familiarity with R&D products

As a measure of extent of knowledge of R&D products at sites, site PR's were asked to rate their familiarity with eight "high visibility" R&D products (selected by staff at NIE) which were named and briefly described on the T1 Questionnaire. As can be seen in Table 1, there is very little familiarity with any of these products. Most ratings are "Never heard of it" or "Heard of it," with very few ratings of "Reviewed it," "Saw it in use," or "Used it." There is somewhat more familiarity for nearly all projects with the Individually Prescribed Instruction in Mathematics (IPI) developed by LDRC/RBS, but with the possible exception of Project 5, PR's from all projects are nearly uniformly low in familiarity with the other R&D projects.

C. Forces toward problem solution

As a measure of perceived forces or pressures toward action, site PR's were asked to rate the importance of each of six forces in stimulating action toward problem solution. As is shown in Table 2, most of the forces are thought to be "Important" or "Very Important" by PR's at all the projects except for those at Project 4, who rated all the forces as neutral or "Unimportant." (The significant differences between projects shown in Column P are due solely to Project 4.) "Staff belief in problem" and "new money" are rated as the most important forces, while "state laws and regulations," "budget or enrollment reductions," and "new leadership" are rated as less important.

TABLE 1
MEAN RATINGS OF FAMILIARITY WITH R&D PRODUCTS BY PROJECT

R&D Products \ Projects	3	4	5	6	7	8	9
CSE Evaluation Workshops	1.50	1.72	1.50	1.45	1.56	1.70	1.19
NWREL IPC	2.38	1.44	1.50	1.80	1.25	1.60	1.34
FWL Minicourses	1.88	1.44	3.33	1.60	2.00	1.95	1.47
EBCE	1.67	2.22	1.67	1.45	1.56	1.25	2.16
LRDC IS	1.96	1.83	2.50	1.45	1.81	1.85	1.22
IPI	2.13	2.44	3.50	2.60	2.13	2.60	1.38
MUS	1.79	1.61	1.67	2.20	2.06	1.70	1.28
SWRL BRP	1.88	1.83	1.50	2.40	2.56	2.15	1.56

Ratings: 1 = never heard of it
 2 = heard of it
 3 = reviewed it
 4 = saw it in use
 5 = used it

R&D Products Key: (The full names rather than the acronyms were used on the rating form.)

Center for the Study of Evaluation Workshops

Northwest Regional Educational Laboratory's Interpersonal Communications

Far West Laboratory's Minicourses

Experience-Based Career Education (actually four similar programs)

Learning Research and Development Center's Individualized Science

Individually Prescribed Instruction in Mathematics

Wisconsin R&D Center's Multi-Unit School

Southwest Regional Laboratory Beginning Reading Program

TABLE 2
 MEAN RATINGS AND F-TEST PROBABILITY LEVELS (P)
 OF FORCES TOWARD ACTION BY PROJECT

Forces/Projects	3	4	5	6	7	8	9	P	Total Across Projects
Community pressure	2.29	3.33	1.50	1.90	1.94	2.05	2.13	.00*	2.05
State laws/regulations	2.46	4.22	2.00	2.75	2.19	2.10	2.06	.00*	2.42
Budget or enrollment reductions	2.54	3.00	2.50	2.50	2.00	2.20	2.18	.28	2.67
Staff belief in problem	1.83	4.60	1.17	1.40	1.19	1.30	1.87	.00*	1.47
New money	1.54	4.11	1.50	1.70	1.69	1.45	1.47	.00*	1.58
New leadership	2.42	3.94	1.50	2.45	2.25	2.50	2.50	.00*	2.40
Total Forces	2.18	3.81	1.69	2.12	2.00	1.93	2.04	.00*	2.10

Ratings: 1 = very important
 2 = important
 3 = neither important nor unimportant
 4 = unimportant
 5 = very unimportant

* = $p < .01$ (One-way analysis of variance)

C. Forces (continued)

The six forces are relatively independent. Among the 15 possible pairs of items, only two pairs show appreciable correlation: (1) if "recent reductions in enrollment or budget" is an important force toward action, so is "availability of new money or opportunity to tackle the problem" ($r = .50$); and (2) if "recent reductions in enrollment or budget" is important, so is "new state laws or regulations" ($r = .52$).

Although we don't have enough T2 data to compare project means at T2, a comparison of a small sample ($N = 28$) which rated importance of forces at both T1 and T2 indicates that, for this small sample at least, the perceptions of forces does not appreciably change from T1 to T2 (see Table 3).

D. Type of help sought

Frequencies and comparisons of type of help sought by PR's should provide another indicator of antecedent conditions (in this case, needs) at sites. In Table 4, there are two columns for each project: the first indicates the number of times PR's reported seeking each type of help, and the second shows the average number of times each type of help was mentioned per PR. Overall, the types of help most frequently sought were human resources and training and information, while help in organizational development was least frequently sought. Although this holds true for most projects, there seem to be different profiles of help sought for different projects. For example, Project 4 sites frequently seek all kinds of help except organizational development; Project 8 sites seek many types of help, with special emphasis on human resources and training and little emphasis on money; whereas Project 5 sites seek little help of any kind.

TABLE 3
 MEAN FORCE RATINGS AT T1 AND T2
 BY PRINCIPAL RESPONDENTS

Force	T1 n=28	T2 n=28
1) Community and parent pressure	2.1	2.0
2) New state laws or regulations	3.0	2.8
3) Recent reductions in enrollment or budget	2.5	2.4
4) Strong staff belief that something needs to be done about problem	1.3	1.3
5) Availability of new money	1.7	1.4
6) New local leadership	2.6	2.6

Rating Scale

- 1 = very important
- 2 = important
- 3 = neither important nor unimportant
- 4 = unimportant
- 5 = very unimportant

TABLE 4
TYPE HELP SOUGHT BY PROJECT

Type Help Sought	Project 3 n = 28	Project 4 n = 18	Project 5 n = 10	Project 6 n = 23	Project 7 n = 27	Project 8 n = 23	Project 9 n = 42	Total n=171	
	freq. #/R	freq. #/R	freq. #/R	freq. #/R	freq. #/R	freq. #/R	freq. #/R	freq.	#/R
money	13 .5	12 .7	4 .4	13 .6	11 .4	10 .4	20 .5	83	.5
problem	10 .3	12 .7	1 .1	2 .1	15 .6	17 .8	16 .4	73	.4
plan	17 .6	15 .8	2 .2	15 .7	14 .5	18 .8	35 .8	116	.7
human	14 .5	20 1.1	4 .4	15 .7	32 1.2	39 1.7	47 1.1	171	1.0
information	21 .8	17 1.0	2 .2	20 .9	28 1.0	29 1.2	55 1.3	172	1.0
innovation	11 .4	14 .8	1 .1	17 .8	11 .4	24 1.0	27 .6	105	.6
organization	5 .2	3 .1	0 0	4 .2	7 .3	6 .2	12 .3	37	.2
Average number of types of help sought per Respondent	3.3	5.2	1.4	4.0	4.4	6.1	5.0		

NOTE: Frequency = total number of times type of help sought by project Principal Respondents
#/R = average number of times type of help sought per Principal Respondent

Type of help sought:

Money

Problem-definition or problem-solving help

Planning help

Human resources or training help

Information

New programs, innovations, products

Organizational development help

E. Barriers to problem solution

Although the 39 barriers were derived from the "nine conditions" described by Hutchins (see page 10), factor analysis of barrier ratings by PR's and LA's indicates only four strong and clearly defined factors. (Analysis of PR ratings and LA ratings separately and together, with the five-point rating scale and again with a collapsed four-point scale, revealed these same four major factors, which suggests that they represent important conceptual groupings for these respondents.) The factors and the items associated with each factor are presented in Table 5. The first four factors listed (i.e., information about innovations, interpersonal relations, securing money, and identification of problem) are by far the strongest factors and are those which characterize the relationship between perceptions of the different barriers for LA's as well as PR's. Thus, there is not a strong or clear relationship between the "nine conditions" conceptualized by Hutchins (from which the barriers were derived) and the groupings of the barriers (i.e., the factors) for PR's and LA's; however, there is considerable overlap.

The condition time is missing, but it really isn't well represented in the list of 39 barrier items. A conducive general environment is clearly represented in the factor analysis results, but with an important shift toward the social, interpersonal, communication aspect of organizational environment. Opportunity or triggering impetus is not evident, but, like time, it is not well represented in the list of 39 barriers. Organizational reasons for change effort and individual incentives are just part of the large interpersonal, organizational environment factor. Knowledge (of reasons for change of R&D alternatives, of required process, of probable outcomes) is just too big a bag, but close to what the practitioner does see as fitting together--

TABLE 5
SUBSCALES DERIVED FROM FACTOR ANALYSES OF BARRIER RATINGS
OF PRINCIPAL RESPONDENTS AND LINKING AGENTS

Barrier Items	Subscale
11, 12, 14, 15	Information about innovations
10, 25-29, 36	Interpersonal relations
30-34	Securing money
1-5	Identify problem
6, 9, 18, 22, 23	Prepare for innovation
38, 39	Clarify consequences of innovation
17, 20	Integration of programs
13, 24	Obtain outside help

Key to Barrier Items:

- (1) Getting new data about the nature of the problem.
- (2) Defining more precisely the causes of the problem.
- (3) Restating your goals, objectives and criteria for selecting a new course of action.
- (4) Articulating your view of the problem with the relevant literature, research, or known practice.
- (5) Identifying what you are already doing to resolve the problem.
- (6) Improving your group planning, decision-making, and general problem-solving skills.
- (9) Setting up a good monitoring, evaluation, and feedback system.
- (10) Securing more community and staff agreement and support for what needs to be done.
- (11) Finding out about the nature and range of innovations that might be available to help solve your problem.
- (12) Getting in-depth information about just a few innovations that might help solve your problem.
- (13) Visiting or talking to others to see what they are doing to solve the same problem you have.
- (14) Getting sample materials and/or orientation from the developers of new programs in the problem area.
- (15) Getting good, "hard" performance information about the effectiveness of programs you might consider for use in your situation.
- (17) Integrating new materials or procedures into your existing program.
- (18) Reorganizing or re-doing, or adding on to what you are already doing, rather than adopting something totally new.
- (20) Finding a way to put together a number of components from different sources that will fit your unique needs.
- (22) Providing orientation and training for those who will be involved in implementing any changes you might make.
- (23) Providing training for those who will manage or evaluate the staff involved in implementing any innovation.
- (24) Securing outside help (consultants, advisers, trainers, etc.) to review your problem and help implement a solution.
- (25) Changing the structure of the current organization or the roles of people involved.
- (26) Improving the human relationships and group dynamics of those involved.
- (27) Strengthening the leadership available to the school.
- (28) Improving communication among the people and organizations that have to be involved.
- (29) Encouraging and reassuring those who will be affected by any changes.
- (30) Securing money or help to get information about possible innovations and develop plans for implementation.
- (31) Securing money to purchase or arrange for donation of materials, or make other arrangements for physical requirements associated with the installation of an innovation you might select.
- (32) Securing money or support to train personnel to be involved in solving the problem.
- (33) Securing money or help to plan and carry out a reorganization.
- (34) Securing money or help to hire additional personnel, or getting release time for existing personnel to be involved in solving the problem.
- (36) Getting recognition for those who will have to work hardest to solve the problem.
- (38) Reducing the tension or threat involved in trying something new.
- (39) Making sure that the training and experience that those involved will get is perceived by them to advance their individual careers.

E. Barriers (continued)

namely, any information about innovations (but probably with less emphasis on required processes or on probable outcomes). An innovation (as seen at T1) is just part of the same "information about innovations" factor. Material resources and human resources tend to be combined and associated with items 31-34, "securing money or support." Planning is represented by a few barrier items, but they do not group into a factor of any strength.

Since we felt that there is little conceptual difference between "no barrier" and "unimportant barrier," we combined these two ratings ("1" and "3" respectively on the five-point scale) into a rating of "3." Table 6 presents the mean ratings of each of the 39 barriers by project and by type of respondent (PR or LA), based on this collapsed rating scale of 3 = "no barrier" or "unimportant barrier," 4 = "locally resolvable," 5 = "need help," and 6 = "intractable." Looking at the "Total" column, it can be seen that the mean rating of most barriers is between "locally resolvable" and "need help," and there is considerable agreement between PR's and LA's. Examination of the "Total" row will show that there is considerable agreement between projects as well, although Projects 6 and 7 rate the barriers as somewhat less important. Projects 4 and 7 are the only projects where the means for PR's and LA's differ, both in the direction of LA's rating barriers as slightly less important.

Examination of individual barrier means in the "Total" column shows that the highest means are for barriers involving "securing money" (# 30-34) and "obtaining information about innovations" (# 11, 12, 14, 15), while the lowest means are for barriers involving "interpersonal relations" (# 10, 25-29, 36) and "identifying the problem" (# 1-5). These results are more clearly seen in Table 7.

Since high means could be a result of ratings of either "need help" ("5") or "intractable" ("6") which have very different implications for strategies,

TABLE 6
MEAN BARRIER RATINGS AT T1

RESPONDENT (n)	Project 3 (19)		Project 4 (18)		Project 5 (8)		Project 6 (17)		Project 7 (25)		Project 8 (29)		TOTAL (116)	
	PR	LA	PR	LA	PR	LA	PR	LA	PR	LA	PR	LA	PR	LA
1	4.1	4.5	3.7	4.0	4.1	4.4	3.5	3.5	3.9	3.8	4.2	4.1	3.9	4.6
2	4.2	4.5	4.2	4.2	4.5	4.8	3.9	3.6	3.8	3.7	4.5	4.3	4.2	4.1
3	3.9	4.6	4.1	4.0	4.3	4.6	3.9	3.9	3.8	3.7	4.2	4.2	4.0	4.1
4	4.5	4.6	4.3	3.8	4.6	4.5	4.1	3.7	4.1	3.6	4.5	4.5	4.3	4.1
5	3.8	3.6	3.7	3.5	3.6	4.4	3.4	3.3	3.4	3.7	3.7	3.6	3.7	3.6
6	4.3	4.7	4.7	4.5	4.1	5.0	4.0	4.2	4.0	4.0	4.3	4.3	4.2	4.4
7	3.9	4.7	4.3	4.2	3.9	3.9	3.8	3.8	3.8	4.0	4.2	4.0	4.0	4.1
8	4.6	4.8	4.7	4.5	4.1	4.8	4.4	4.2	4.2	4.1	4.7	4.6	4.5	4.5
9	4.6	4.5	4.8	4.7	4.6	4.8	4.2	4.3	4.3	4.3	4.9	4.7	4.6	4.5
10	4.3	4.8	4.0	4.2	4.0	3.8	3.9	4.1	4.1	3.9	4.5	4.3	4.2	4.2
11	4.7	4.5	4.9	4.6	5.0	4.8	4.6	4.2	4.8	4.2	4.9	4.9	4.9	4.5
12	4.8	4.0	4.9	4.3	4.9	4.9	4.6	4.4	4.7	4.2	4.8	4.8	4.8	4.4
13	4.4	3.8	4.4	3.8	4.5	4.6	4.2	4.1	4.2	3.9	4.7	4.5	4.4	4.1
14	4.3	3.7	4.3	3.8	4.6	4.9	4.5	4.5	4.5	4.0	4.8	4.8	4.5	4.2
15	4.6	3.8	4.7	4.3	5.0	5.0	4.7	5.0	4.9	4.3	4.9	4.8	4.8	4.5
16	4.5	4.2	4.7	4.2	5.1	4.8	4.8	4.3	4.7	4.3	4.8	4.9	4.7	4.5
17	4.1	4.1	4.1	4.1	4.3	4.8	4.1	4.1	4.2	3.6	4.2	4.1	4.2	4.0
18	4.2	3.9	4.5	3.9	4.3	4.4	3.9	4.1	4.0	3.7	4.3	4.3	4.2	4.0
19	4.4	3.8	4.6	4.7	4.8	4.8	4.6	4.3	4.7	3.9	5.0	4.9	4.7	4.4
20	4.6	4.5	4.7	4.6	4.6	4.6	4.7	4.2	4.4	4.0	5.0	4.6	4.7	4.4
21	4.7	4.7	4.6	5.2	4.9	4.0	4.8	4.5	4.6	4.4	4.9	5.1	4.7	4.6
22	4.7	4.8	5.0	4.5	4.4	4.6	4.5	4.5	4.3	4.1	4.5	4.6	4.6	4.5

Rating Scale

- 3 = no barrier
unimportant barrier
4 = locally resolvable
5 = need help
6 = intractable

PR = Principal Respondent
LA = Linking Agent

Key to Barriers:

- | | |
|--|--|
| <p>(1) Getting new data about the nature of the problem.</p> <p>(2) Defining more precisely the causes of the problem.</p> <p>(3) Restating your goals, objectives and criteria for selecting a new course of action.</p> <p>(4) Articulating your view of the problem with the relevant literature, research, or known practice.</p> <p>(5) Identifying what you are already doing to resolve the problem.</p> <p>(6) Improving your group planning, decision-making, and general problem-solving skills.</p> <p>(7) Developing a procedure for involving more people in the problem-solving/decision-making process.</p> <p>(8) Developing a good plan to carry you through the problem-solving process.</p> <p>(9) Setting up a good monitoring, evaluation, and feedback system.</p> <p>(10) Securing more community and staff agreement and support for what needs to be done.</p> <p>(11) Finding out about the nature and range of innovations that might be available to help solve your problem.</p> <p>(12) Getting indepth information about just a few innovations that might help solve your problem.</p> | <p>(13) Visiting or talking to others to see what they are doing to solve the same problem you have.</p> <p>(14) Getting sample materials and/or orientation from the developers of new programs in the problem area.</p> <p>(15) Getting good, "hard" performance information about the effectiveness of programs you might consider for use in your situation.</p> <p>(16) Finding a well developed innovation that is ready-made for your situation and doesn't require a lot of effort to use.</p> <p>(17) Integrating new materials or procedures into your existing program.</p> <p>(18) Reorganizing or re-doing, or adding on to what you are already doing, rather than adopting something totally new.</p> <p>(19) Discovering innovative practices that other districts have invented to resolve a problem like yours.</p> <p>(20) Finding a way to put together a number of components from different sources that will fit your unique needs.</p> <p>(21) Securing additional part-time or full-time people to work on the problem.</p> <p>(22) Providing orientation and training for those who will be involved in implementing any changes you might make.</p> |
|--|--|

TABLE 6 (Cont'd)

RESPONDENT (n)	Project 3 (19)		Project 4 (18)		Project 5 (8)		Project 6 (17)		Project 7 (25)		Project 8 (29)		TOTAL (116)	
	PR	LA	PR	LA	PR	LA	PR	LA	PR	LA	PR	LA	PR	LA
23	4.4	4.7	4.9	4.6	4.8	4.9	4.3	4.5	4.4	4.6	4.6	4.6	4.5	4.6
24	4.8	4.7	4.6	4.4	5.0	4.8	4.2	4.1	4.3	4.5	4.7	4.8	4.6	4.6
25	4.0	4.8	4.1	4.6	4.6	4.6	4.0	4.5	4.2	4.1	4.1	4.6	4.1	4.5
26	4.2	4.6	4.4	5.0	4.1	4.3	3.9	4.1	4.2	3.8	4.3	4.2	4.2	4.3
27	3.9	4.7	4.4	4.5	4.3	3.4	3.5	4.1	4.2	3.9	4.1	4.1	4.1	4.2
28	4.1	4.5	4.3	4.3	4.0	4.0	3.9	4.0	3.9	3.9	4.3	4.3	4.1	4.2
29	3.8	4.4	4.2	4.1	3.9	3.8	3.7	4.0	3.8	3.8	4.0	4.0	3.9	4.0
30	4.6	4.8	5.1	4.6	4.9	4.6	4.8	4.4	4.8	4.4	5.1	5.0	4.9	4.7
31	4.8	4.4	4.9	4.4	4.8	4.6	4.8	4.6	4.7	4.5	5.0	4.9	4.8	4.6
32	4.9	4.7	4.9	4.5	4.5	4.5	4.8	4.5	4.9	4.5	5.0	4.9	4.9	4.6
33	4.7	4.2	4.8	4.6	4.5	4.6	4.7	5.1	4.7	4.6	4.9	5.2	4.8	4.8
34	5.1	4.2	4.9	4.1	4.9	4.5	4.9	4.6	4.7	4.1	4.9	5.2	4.9	4.5
35	4.3	3.8	4.4	3.8	4.5	4.3	4.4	4.5	4.3	3.8	4.3	4.6	4.3	4.1
36	3.8	3.9	3.7	3.3	3.9	3.3	3.7	3.8	3.8	3.4	3.8	3.9	3.8	3.6
37	4.8	4.1	4.4	4.8	4.8	3.3	4.8	4.3	5.1	4.5	4.8	4.6	4.8	4.4
38	3.8	4.3	4.3	4.4	3.8	3.8	3.8	4.2	3.9	4.0	4.1	3.9	4.0	4.1
39	4.2	3.8	4.1	3.7	4.0	3.6	4.0	4.0	4.0	3.8	4.1	4.1	4.1	3.9
TOTAL	4.4	4.4	4.5	4.3	4.4	4.4	4.2	4.2	4.3	4.0	4.5	4.5	4.4	4.3

Rating Scale

- 3 = no barrier
unimportant barrier
4 = locally resolvable
5 = need help
6 = intractable

PR = Principal Respondent
LA = Linking Agent

Key to Barriers:

- (23) Providing training for those who will manage or evaluate the staff involved in implementing any innovation.
- (24) Securing outside help (consultants, advisers, trainers, etc.) to review your problem and help implement a solution.
- (25) Changing the structure of the current organization or the roles of people involved.
- (26) Improving the human relationships and group dynamics of those involved.
- (27) Strengthening the leadership available to the school.
- (28) Improving communication among the people and organizations that have to be involved.
- (29) Encouraging and reassuring those who will be affected by any changes.
- (30) Securing money or help to get information about possible innovations and develop plans for implementation.
- (31) Securing money to purchase or arrange for donation of materials, or make other arrangements for physical requirements associated with the installation of an innovation you might select.
- (32) Securing money or support to train personnel to be involved in solving the problem.
- (33) Securing money or help to plan and carry out a reorganization.
- (34) Securing money or help to hire additional personnel, or getting release time for existing personnel to be involved in solving the problem.
- (35) Getting results that others will believe show improvements.
- (36) Getting recognition for those who will have to work hardest to solve the problem.
- (37) Getting salary increases or advancements for those who will have to work hardest to solve the problem.
- (38) Reducing the tension or threat involved in trying something new.
- (39) Making sure that the training and experience that those involved will get is perceived by them to advance their individual careers.

TABLE 7
BARRIER RATINGS FOR SUBSCALES

Subscale and Barriers Composing It	MEAN		Frequency of "need help" ratings		Percent of "need help" ratings	
	PR	LA	PR	LA	PR	LA
Information about Innovations (11, 12, 14, 15)	4.8	4.4	94	77	81	67
Interpersonal Relations (10, 25-29, 36)	4.1	4.1	30	30	26	26
Securing Money (30-34)	4.9	4.6	82	66	71	57
Problem Identification (1-5)	4.0	4.1	41	36	36	31

n = 116 Principal Respondents and 116 matching Linking Agents

PR = Principal Respondent

LA = Linking Agent

Key to Barriers:

- | | |
|---|--|
| (1) Getting new data about the nature of the problem. | (26) Improving the human relationships and group dynamics of those involved. |
| (2) Defining more precisely the causes of the problem. | (27) Strengthening the leadership available to the school. |
| (3) Restating your goals, objectives and criteria for selecting a new course of action. | (28) Improving communication among the people and organizations that have to be involved. |
| (4) Articulating your view of the problem with the relevant literature, research, or known practice. | (29) Encouraging and reassuring those who will be affected by any changes. |
| (5) Identifying what you are already doing to resolve the problem. | (30) Securing money or help to get information about possible innovations and develop plans for implementation. |
| (10) Securing more community and staff agreement and support for what needs to be done. | (31) Securing money to purchase or arrange for donation of materials, or make other arrangements for physical requirements associated with the installation of an innovation you might select. |
| (11) Finding out about the nature and range of innovations that might be available to help solve your problem. | (32) Securing money or support to train personnel to be involved in solving the problem. |
| (12) Getting indepth information about just a few innovations that might help solve your problem. | (33) Securing money or help to plan and carry out a reorganization. |
| (14) Getting sample materials and/or orientation from the developers of new programs in the problem area. | (34) Securing money or help to hire additional personnel, or getting release time for existing personnel to be involved in solving the problem. |
| (15) Getting good, "hard" performance information about the effectiveness of programs you might consider for use in your situation. | (36) Getting recognition for those who will have to work hardest to solve the problem. |
| (23) Changing the structure of the current organization or the roles of people involved. | |

E. Barriers (continued)

it is useful to look at the frequency of "need help" ratings for each barrier. The "Total" column in Table 8 shows that 50 percent of the ratings by PR's and 44 percent of the ratings by LA's were "need help," indicating that many barriers are perceived to be very important. It can be seen that considerable differences between projects and between PR's and LA's within projects emerge when we use "need help" ratings as our data. PR's and LA's for Project 5 and especially Project 8 agree that outside help is needed to alleviate most barriers. Respondents at Project 3 and Project 6 also agree with each other, but feel (especially at Project 6) much less help is needed. There is considerable disagreement between PR's and LA's at both Projects 4 and 7; in both cases, LA's feel much less outside help is needed than do PR's.

Study of frequency and percent of "need help" ratings for individual barriers ("Total" column) generally supports the findings reported above for barrier means. A summary of the average frequencies and percentages of "need help" ratings for barriers in the four main factors is presented in Table 7. The barriers most frequently rated "need help" are those involving information about innovations (81 percent of PR ratings for these barriers are "need help") and those involving securing money, while the barriers least frequently rated "need help" are those involving problem identification and interpersonal relations.

Table 8 shows that the individual barriers most frequently rated "need help" are #11 - "Finding out about the nature and range of innovations that might be available to solve the problem;" #12 - "Getting indepth information about just a few innovations that might help solve the problem;" and #15 - "Getting good, hard performance data about program effectiveness." Those least frequently rated "need help" are #5 - "Identifying what is already being done to resolve the problem" and #36 - "Getting recognition for those who will have to work hardest to solve the problem."

TABLE 8

FREQUENCIES OF "NEED HELP" BARRIER RATINGS BY PROJECT

Barriers	PROJECT 3		PROJECT 4		PROJECT 5		PROJECT 6		PROJECT 7		PROJECT 8		Total			
	n=19	n=19	n=18	n=18	n=8	n=8	n=17	n=17	n=25	n=25	n=29	n=29	PR		LA	
	PR	LA	PR	LA	PR	LA	PR	LA	PR	LA	PR	LA	Freq	%	Freq	%
1	8	14	5	5	4	5	3	1	10	4	16	12	46	40	41	35
2	8	11	6	5	6	6	4	2	5	1	18	14	47	41	39	34
3	4	14	6	2	3	5	5	4	6	1	12	13	36	31	39	34
4	13	15	11	3	4	5	8	3	10	4	20	18	66	57	48	41
5	2	3	1	1	1	4	0	0	1	1	4	3	9	8	12	10
6	10	10	12	13	3	8	6	9	8	6	14	16	53	46	62	53
7	5	4	8	4	3	2	3	5	5	9	12	10	36	31	34	29
8	11	16	14	11	3	6	8	9	8	10	21	19	65	56	71	61
9	12	13	15	12	5	6	7	11	12	12	25	22	76	66	76	66
10	6	12	3	1	3	2	3	5	7	4	16	15	38	33	39	34
11	16	13	16	13	8	7	13	10	22	13	26	28	101	87	84	72
12	17	7	16	9	7	7	13	12	19	13	26	26	98	84	74	64
13	12	6	11	3	4	5	7	7	12	2	24	20	70	60	43	37
14	10	6	10	6	6	7	12	13	18	8	23	26	79	68	66	57
15	14	7	15	11	8	8	14	17	19	14	27	25	97	84	82	71
16	13	9	12	6	7	7	14	7	18	15	24	23	88	76	67	58
17	5	7	4	7	2	6	4	5	8	2	11	10	34	29	37	32
18	5	8	9	3	2	5	2	7	7	1	14	14	39	34	38	33
19	13	7	13	15	6	6	12	10	20	8	27	28	91	78	74	64
20	14	11	14	12	5	5	13	8	13	8	25	19	84	72	63	54
21	10	3	13	2	4	1	5	3	7	12	20	17	59	51	38	33
22	14	17	16	11	4	5	11	12	11	9	19	20	75	65	74	64
23	11	11	16	11	6	7	8	13	12	17	20	21	73	63	80	69
24	16	15	12	10	8	6	8	9	9	15	23	26	76	66	81	70
25	0	3	4	1	3	2	4	3	5	2	13	9	29	25	20	17

PR = Principal Respondent

LA = Linking Agent

Key to Barriers:

- (1) Getting new data about the nature of the problem.
- (2) Defining more precisely the causes of the problem.
- (3) Restating your goals, objectives and criteria for selecting a new course of action.
- (4) Articulating your view of the problem with the relevant literature, research, or known practice.
- (5) Identifying what you are already doing to resolve the problem.
- (6) Improving your group planning, decision-making, and general problem-solving skills.
- (7) Developing a procedure for involving more people in the problem-solving/decision-making process.
- (8) Developing a good plan to carry you through the problem-solving process.
- (9) Setting up a good monitoring, evaluation, and feedback system.
- (10) Securing more community and staff agreement and support for what needs to be done.
- (11) Finding out about the nature and range of innovations that might be available to help solve your problem.
- (12) Getting indepth information about just a few innovations that might help solve your problem.
- (13) Visiting or talking to others to see what they are doing to solve the same problem you have.
- (14) Getting sample materials and/or orientation from the developers of new programs in the problem area.
- (15) Getting good, "hard" performance information about the effectiveness of programs you might consider for use in your situation.
- (16) Finding a well developed innovation that is ready-made for your situation and doesn't require a lot of effort to use.
- (17) Integrating new materials or procedures into your existing program.
- (18) Reorganizing or re-doing, or adding on to what you are already doing, rather than adopting something totally new.
- (19) Discovering innovative practices that other districts have invented to resolve a problem like yours.
- (20) Finding a way to put together a number of components from different sources that will fit your unique needs.
- (21) Securing additional part-time or full-time people to work on the problem.
- (22) Providing orientation and training for those who will be involved in implementing any changes you might make.
- (23) Providing training for those who will manage or evaluate the staff involved in implementing any innovation.
- (24) Securing outside help (consultants, advisers, trainers, etc.) to review your problem and help implement a solution.
- (25) Changing the structure of the current organization or the roles of people involved.

TABLE 8 (Cont'd)

Barriers	PROJECT 3		PROJECT 4		PROJECT 5		PROJECT 6		PROJECT 7		PROJECT 8		Total			
	n=19	n=19	n=18	n=18	n=8	n=8	n=17	n=17	n=25	n=25	n=29	n=29	PR		LA	
	PR	LA	PR	LA	PR	LA	PR	LA	PR	LA	PR	LA	freq	%	freq	%
26	6	7	9	16	3	4	4	4	10	1	12	10	44	38	42	36
27	3	5	9	5	2	0	3	5	7	4	9	10	33	28	29	25
28	4	10	6	3	2	2	4	4	4	7	9	13	29	25	39	34
29	2	11	5	3	1	1	2	5	5	1	8	7	23	20	28	24
30	12	16	17	12	6	6	11	11	15	6	25	26	86	74	77	67
31	12	9	16	9	7	6	10	11	13	7	25	25	83	72	67	58
32	14	15	15	11	5	5	13	12	15	7	25	26	87	75	76	66
33	10	9	16	11	6	4	8	8	17	4	22	22	79	68	58	50
34	11	6	16	8	6	4	7	8	13	6	21	21	74	64	53	47
35	9	2	10	3	4	4	4	9	11	2	13	16	51	44	36	31
36	3	7	1	0	0	1	2	2	3	1	4	4	13	11	15	13
37	3	0	7	3	2	1	2	0	7	0	19	4	40	34	8	7
38	3	6	8	7	2	2	2	6	7	6	7	7	29	25	34	29
39	6	6	5	4	3	2	4	6	8	0	11	12	37	32	30	26
Average frequency	8.9	9.0	10.3	6.9	4.2	4.5	6.7	7.1	10.4	6.2	17.6	16.6	58		51	
Average percent	47%	47%	57%	38%	53%	56%	34%	42%	42%	25%	61%	58%	50%		44%	

PR = Principal Respondent

LA = Linking Agent

Key to Barriers:

- (26) Improving the human relationships and group dynamics of those involved.
- (27) Strengthening the leadership available to the school.
- (28) Improving communication among the people and organizations that have to be involved.....
- (29) Encouraging and reassuring those who will be affected by any changes.....
- (30) Securing money or help to get information about possible innovations and develop plans for implementation.....
- (31) Securing money to purchase or arrange for donation of materials, or make other arrangements for physical requirements associated with the installation of an innovation you might select.....
- (32) Securing money or support to train personnel to be involved in solving the problem.....
- (33) Securing money or help to plan and carry out a reorganization.....
- (34) Securing money or help to hire additional personnel, or getting release time for existing personnel to be involved in solving the problem.....
- (35) Getting results that others will believe show improvements.....
- (36) Getting recognition for those who will have to work hardest to solve the problem.....
- (37) Getting salary increases or advancements for those who will have to work hardest to solve the problem.....
- (38) Reducing the tension or threat involved in trying something new.....
- (39) Making sure that the training and experience that those involved will get is perceived by them to advance their individual careers.

E. Barriers (continued)

As shown in Table 9, very few barriers received any ratings of "intractable;" the only barriers with a significant number of such ratings are #21 - "Securing additional part-time or full-time personnel to work on the problem" (18 percent of PR ratings are "intractable") and #37 - "Getting salary increases or advancements for those who will have to work hardest to solve the problem" (21 percent of PR ratings are "intractable"). Each of the barriers involving securing money received some "intractable" ratings (although only about 5 percent on the average).

TABLE 9

FREQUENCIES AND PERCENTS OF BARRIER RATINGS BY TYPE RESPONDENT AT T1

Barrier	Type Respondent	Ratings							
		1, 3=Unimportant or no Barrier		4=Locally Resolvable		5=Need Help		6=Intractable	
		freq	%	freq	%	freq	%	freq	%
1	PR	60	45	32	24	41	31	0	0
	I	41	40	29	29	31	31	0	0
2	PR	32	24	53	40	48	36	0	0
	I	20	19	35	35	46	46	0	0
3	PR	37	28	48	36	47	36	0	0
	I	21	21	43	43	37	37	0	0
4	PR	31	24	21	16	78	60	1	1
	I	25	24	23	23	51	51	2	2
5	PR	54	40	64	48	15	11	0	0
	I	39	39	46	46	15	15	0	0
6	PR	25	19	38	29	70	53	0	0
	I	11	11	30	30	59	59	0	0
7	PR	30	22	52	39	51	38	0	0
	I	21	21	40	40	39	39	1	1
8	PR	12	9	38	29	81	62	0	0
	I	10	10	21	21	70	70	0	0
9	PR	7	5	29	22	96	72	1	1
	I	4	3	25	25	71	70	1	1

PR = Principal Respondent

I = Interviewee

Key to Barriers:

- | | |
|---|--|
| (1) Getting new data about the nature of the problem.
(2) Defining more precisely the causes of the problem.
(3) Restating your goals, objectives and criteria for selecting a new course of action.
(4) Articulating your view of the problem with the relevant literature, research, or known practice.
(5) Identifying what you are already doing to resolve the problem.
(6) Improving your group planning, decision-making, and general problem-solving skills. | (7) Developing a procedure for involving more people in the problem-solving/decision-making process.
(8) Developing a good plan to carry you through the problem-solving process.
(9) Setting up a good monitoring, evaluation, and feedback system. |
|---|--|

n's: PR = 133
I = 101

TABLE 9 (Cont'd)

Barrier	Type Respondent	Ratings							
		1, 3=Unimportant or no Barrier		4=Locally Resolvable		5=Need Help		6=Intractable	
		freq	%	freq	%	freq	%	freq	%
10	PR	23	17	67	50	41	31	2	2
	I	12	12	50	50	39	39	0	0
11	PR	6	5	9	7	117	88	1	1
	I	8	8	9	9	84	83	0	0
12	PR	7	5	9	7	116	87	1	1
	I	9	9	12	12	80	79	0	0
13	PR	21	16	30	23	82	62	0	0
	I	25	25	32	32	44	44	0	0
14	PR	19	14	20	15	93	70	0	0
	I	15	15	24	24	62	61	0	0
15	PR	13	10	8	6	13	83	1	1
	I	7	7	13	13	81	80	0	0
16	PR	15	11	14	11	98	75	4	3
	I	17	17	9	9	64	65	8	8
17	PR	19	14	66	50	46	35	1	1
	I	13	13	46	46	41	41	0	0
18	PR	21	16	68	52	42	32	1	1
	I	22	22	45	45	32	32	1	1

PR = Principal Respondent

I = Interviewee

Key to Barriers:

- (10) Securing more community and staff agreement and support for what needs to be done.
- (11) Finding out about the nature and range of innovations that might be available to help solve your problem.
- (12) Getting indepth information about just a few innovations that might help solve your problem.
- (13) Visiting or talking to others to see what they are doing to solve the same problem you have.
- (14) Getting sample materials and/or orientation from the developers of new programs in the problem area.
- (15) Getting good, "hard" performance information about the effectiveness of programs you might consider for use in your situation.
- (16) Finding a well developed innovation that is ready-made for your situation and doesn't require a lot of effort to use.
- (17) Integrating new materials or procedures into your existing program.
- (18) Reorganizing or re-doing, or adding on to what you are already doing, rather than adopting something totally new.

n's: PR = 133
I = 101

TABLE 9 (Cont'd)

Barrier	Type Respondent	Ratings							
		1, 3=Unimportant or no Barrier		4=Locally Resolvable		5=Need Help		6=Intractable	
		freq	%	freq	%	freq	%	freq	%
19	PR	11	8	16	12	106	80	0	0
	I	15	15	18	18	68	67	0	0
20	PR	13	10	27	20	91	68	2	2
	I	6	5	26	26	69	68	0	0
21	PR	13	10	21	16	75	56	24	18
	I	17	18	26	26	48	48	10	10
22	PR	11	8	29	22	91	68	2	2
	I	3	3	27	27	70	70	0	0
23	PR	12	9	30	23	91	68	0	0
	I	4	4	19	19	77	76	1	1
24	PR	11	8	24	18	98	74	0	0
	I	10	10	26	26	65	64	0	0
25	PR	30	23	66	50	29	22	7	5
	I	15	15	50	50	30	30	6	6
26	PR	25	19	65	49	42	32	1	1
	I	14	14	43	43	40	40	4	4
27	PR	37	28	55	42	37	28	2	2
	I	25	25	37	37	34	34	3	3

PR = Principal Respondent

I = Interviewee

Key to Barriers:

- (19) Discovering innovative practices that other districts have invented to resolve a problem like yours.
- (20) Finding a way to put together a number of components from different sources that will fit your unique needs.
- (21) Securing additional part-time or full-time people to work on the problem.
- (22) Providing orientation and training for those who will be involved in implementing any changes you might make.
- (23) Providing training for those who will manage or evaluate the staff involved in implementing any innovation.
- (24) Securing outside help (consultants, advisers, trainers, etc.) to review your problem and help implement a solution.
- (25) Changing the structure of the current organization or the roles of people involved.....
- (26) Improving the human relationships and group dynamics of those involved.
- (27) Strengthening the leadership available to the school.

n's: PR = 133
I = 101

TABLE 9 (Cont'd)

Barrier	Type Respondent	Ratings							
		1, 3=Unimportant or no Barrier		4=Locally Resolvable		5=Need Help		6=Intractable	
		freq	%	freq	%	freq	%	freq	%
28	PR	25	19	70	53	36	27	2	2
	I	16	16	47	47	37	37	1	1
29	PR	27	21	78	59	28	21	0	0
	I	16	16	63	63	22	22	0	0
30	PR	2	2	11	8	115	86	5	4
	I	4	4	17	17	79	78	1	1
31	PR	4	3	16	12	108	82	4	3
	I	6	6	19	19	75	75	0	0
32	PR	3	2	9	7	115	87	5	4
	I	5	5	12	12	81	81	2	2
33	PR	13	10	16	12	97	75	3	2
	I	7	7	16	16	75	75	2	2
34	PR	4	3	16	12	101	77	11	8
	I	7	7	20	20	72	72	1	1
35	PR	11	8	60	46	58	44	3	2
	I	18	18	44	44	36	36	1	1
36	PR	44	33	75	55	13	10	1	1
	I	30	38	48	48	14	14	1	1

PR = Principal Respondent

I = Interviewee

Key to Barriers:

- (28) Improving communication among the people and organizations that have to be involved.
- (29) Encouraging and reassuring those who will be affected by any changes.
- (30) Securing money or help to get information about possible innovations and develop plans for implementation.
- (31) Securing money to purchase or arrange for donation of materials, or make other arrangements for physical requirements associated with the installation of an innovation you might select.
- (32) Securing money or support to train personnel to be involved in solving the problem.....
- (33) Securing money or help to plan and carry out a reorganization.
- (34) Securing money or help to hire additional personnel, or getting release time for existing personnel to be involved in solving the problem.
- (35) Getting results that others will believe show improvements.
- (36) Getting recognition for those who will have to work hardest to solve the problem.

n's: PR = 133
I = 101

TABLE 9 (Cont'd)

Barrier	Type Respondent	Ratings							
		1, 3=Unimportant or no Barrier		4=Locally Resolvable		5=Need Help		6=Intractable	
		freq	%	freq	%	freq	%	freq	%
37	PR	32	25	24	19	43	34	27	21
	I	33	33	16	16	35	35	15	15
38	PR	30	23	62	47	39	29	2	2
	I	31	31	32	32	36	36	2	2
39	PR	35	27	53	41	40	31	2	2
	I	39	39	36	36	26	26	0	0

PR = Principal Respondent

I = Interviewee

Key to Barriers:

- (37) Getting salary increases or advancements for those who will have to work hardest to solve the problem.
- (38) Reducing the tension or threat involved in trying something new.
- (39) Making sure that the training and experience that those involved will get is perceived by them to advance their individual careers.

n's: PR = 133
I = 101

E. Barriers (continued)

We have shown that PR's and LA's have considerable agreement on ratings of barriers, though LA's tend to rate most barriers "need help" less frequently than do PR's. On a small sample of 28 LA's and 28 PR's, which provided both T1 and T2 ratings, at T1 LA's gave fewer "need help" ratings than did PR's on 33 of the 39 barriers. The differences in number of such ratings were generally large. Table 10 shows the ratings of PR's and LA's for each of the 39 barriers. Table 11 summarizes these ratings for the various barrier factors or subscales. It can be seen in Table 11 that the differences between PR's and LA's in tendency to rate barriers as "need help" at T1 are most pronounced for the barriers involving information about innovations, securing money, and problem identification.

TABLE 10
RESPONSE FREQUENCIES AND PERCENTS ON BARRIER ITEMS T1 AND T2

Barrier	Informant	1, 2, 3 = no barrier/ resolved/unimportant		4 = locally resolvable		5 = need help		6 = intractable	
		freq	%	freq	%	freq	%	freq	%
1	PR T1	14	15	4	14	10	36	0	0
	LA T1	18	65	6	21	4	14	0	0
	PR T2	17	68	4	16	4	16	0	0
	LA T2	14	67	5	24	1	5	1	5
2	PR T1	8	29	13	46	6	21	0	0
	LA T1	16	57	12	43	0	0	0	0
	PR T2	15	60	6	24	3	12	1	4
	LA T2	18	86	3	14	0	0	0	0
3	PR T1	10	37	6	22	11	41	0	0
	LA T1	15	54	13	46	0	0	0	0
	PR T2	12	48	6	24	7	28	0	0
	LA T2	15	72	6	29	0	0	0	0
4	PR T1	7	25	9	32	12	43	0	0
	LA T1	20	72	6	21	2	7	0	0
	PR T2	11	44	4	16	10	40	0	0
	LA T2	13	62	4	19	4	19	0	0
5	PR T1	16	57	11	39	1	4	0	0
	LA T1	18	64	10	36	0	0	0	0
	PR T2	17	68	6	24	2	8	0	0
	LA T2	14	67	5	24	2	10	0	0
6	PR T1	6	21	11	39	11	39	0	0
	LA T1	13	47	9	32	6	21	0	0
	PR T2	8	32	8	32	9	36	0	0
	LA T2	5	24	8	38	8	38	0	0
7	PR T1	9	33	11	39	8	29	0	0
	LA T1	15	53	8	29	5	18	0	0
	PR T2	11	44	10	40	4	16	0	0
	LA T2	10	48	7	33	4	19	0	0

PR = Principal Respondent

LA = Linking Agent

Key to Barriers:

- (1) Getting new data about the nature of the problem.
- (2) Defining more precisely the causes of the problem.
- (3) Restating your goals, objectives and criteria for selecting a new course of action.
- (4) Articulating your view of the problem with the relevant literature, research, or known practice.
- (5) Identifying what you are already doing to resolve the problem.
- (6) Improving your group planning, decision-making, and general problem-solving skills.
- (7) Developing a procedure for involving more people in the problem-solving/decision-making process.

n = 28 PR's and 28 matching LA's

TABLE 10 (Cont'd)

Barrier	Informant	1, 2, 3 = no barrier/ resolved/unimportant		4 = locally resolvable		5 = need help		6 = intractable	
		freq	%	freq	%	freq	%	freq	%
8	PR T1	5	18	9	32	13	46	1	4
	LA T1	13	47	7	25	8	29	0	0
	PR T2	6	24	8	32	11	44	0	0
	LA T2	6	29	6	29	9	43	0	0
9	PR T1	6	21	8	28	14	50	0	0
	LA T1	10	36	6	21	12	43	0	0
	PR T2	6	24	5	20	14	56	0	0
	LA T2	4	20	8	40	8	40	0	0
10	PR T1	5	18	14	50	8	29	1	4
	LA T1	8	28	13	46	7	25	0	0
	PR T2	9	36	15	60	1	4	0	0
	LA T2	7	33	5	24	6	29	3	14
11	PR T1	4	14	2	7	22	79	0	0
	LA T1	13	46	4	14	11	39	0	0
	PR T2	6	24	0	0	18	72	1	4
	LA T2	13	62	0	0	5	24	3	14
12	PR T1	5	18	2	7	20	71	1	4
	LA T1	11	38	3	11	14	50	0	0
	PR T2	7	28	1	4	17	68	0	0
	LA T2	12	57	5	24	4	19	0	0
13	PR T1	7	24	11	39	10	36	0	0
	LA T1	13	46	15	54	0	0	0	0
	PR T2	9	28	6	24	10	40	0	0
	LA T2	11	53	8	38	2	10	0	0
14	PR T1	7	25	3	11	18	64	0	0
	LA T1	13	47	6	21	9	32	0	0
	PR T2	11	44	0	0	14	56	0	0
	LA T2	12	57	6	29	3	14	0	0

PR = Principal Respondent

LA = Linking Agent

Key to Barriers:

- (8) Developing a good plan to carry you through the problem-solving process.
- (9) Setting up a good monitoring, evaluation, and feedback system.
- (10) Securing more community and staff agreement and support for what needs to be done.
- (11) Finding out about the nature and range of innovations that might be available to help solve your problem.
- (12) Getting indepth information about just a few innovations that might help solve your problem.
- (13) Visiting or talking to others to see what they are doing to solve the same problem you have.
- (14) Getting sample materials and/or orientation from the developers of new programs in the problem area.

n = 28 PR's and 28 matching LA's

TABLE 10 (Cont'd)

Barrier	Informant	1, 2, 3 = no barrier/ resolved/unimportant		4 = locally resolvable		5 = need help		6 = intractable	
		freq	%	freq	%	freq	%	freq	%
15	PR T1	3	11	5	18	19	68	1	4
	LA T1	6	22	2	7	20	71	0	0
	PR T2	6	24	1	4	17	68	1	4
	LA T2	10	48	5	24	6	29	0	0
16	PR T1	3	11	3	7	21	75	1	4
	LA T1	14	50	2	7	10	36	2	7
	PR T2	9	36	4	16	13	52	1	4
	LA T2	10	48	6	29	4	19	1	5
17	PR T1	4	15	13	46	11	39	0	0
	LA T1	13	47	11	39	4	14	0	0
	PR T2	5	21	11	46	8	33	0	0
	LA T2	9	43	3	14	9	43	0	0
18	PR T1	8	29	13	46	7	25	0	0
	LA T1	13	47	11	39	4	14	0	0
	PR T2	10	42	9	38	5	21	0	0
	LA T2	11	53	7	33	3	14	0	0
19	PR T1	2	7	4	14	22	79	0	0
	LA T1	15	53	5	18	8	29	0	0
	PR T2	7	28	3	12	14	56	1	4
	LA T2	11	53	4	19	6	29	0	0
20	PR T1	2	8	6	21	19	68	1	4
	LA T1	12	43	9	32	7	25	0	0
	PR T2	8	32	7	28	10	40	0	0
	LA T2	10	48	6	29	5	24	0	0
21	PR T1	3	11	7	25	10	36	8	29
	LA T1	8	29	4	14	10	36	6	21
	PR T2	2	8	12	48	7	28	4	16
	LA T2	7	33	5	24	3	14	6	29

PR = Principal Respondent

LA = Linking Agent

Key to Barriers:

- (15) Getting good, "hard" performance information about the effectiveness of programs you might consider for use in your situation.
- (16) Finding a well developed innovation that is ready-made for your situation and doesn't require a lot of effort to use.
- (17) Integrating new materials or procedures into your existing program.
- (18) Reorganizing or re-doing, or adding on to what you are already doing, rather than adopting something totally new.
- (19) Discovering innovative practices that other districts have invented to resolve a problem like yours.
- (20) Finding a way to put together a number of components from different sources that will fit your unique needs.
- (21) Securing additional part-time or full-time people to work on the problem.

n = 28 PR's and 28 matching LA's

TABLE 10 (Cont'd)

Barrier	Informant	1, 2, 3 = no barrier/ resolved/unimportant		4 = locally resolvable		5 = need help		6 = intractable	
		freq	%	freq	%	freq	%	freq	%
22	PR T1	4	15	10	36	14	50	0	0
	LA T1	9	33	8	29	11	39	0	0
	PR T2	10	40	6	24	9	36	0	0
	LA T2	10	48	3	14	8	38	0	0
23	PR T1	3	11	12	43	12	43	1	4
	LA T1	6	22	4	14	18	64	0	0
	PR T2	5	20	7	28	13	52	0	0
	LA T2	12	58	1	5	8	38	0	0
24	PR T1	5	18	11	39	11	39	1	4
	LA T1	10	36	5	18	13	46	0	0
	PR T2	11	44	8	32	6	24	0	0
	LA T2	9	42	6	29	6	29	0	0
25	PR T1	8	29	12	43	7	25	1	4
	LA T1	6	21	14	50	3	11	5	18
	PR T2	9	37	10	42	5	21	0	0
	LA T2	9	43	8	38	4	19	0	0
26	PR T1	4	15	15	54	9	32	0	0
	LA T1	10	36	14	50	4	14	0	0
	PR T2	7	29	9	38	8	33	0	0
	LA T2	4	20	10	48	7	33	0	0
27	PR T1	11	40	8	29	7	25	2	7
	LA T1	9	32	13	46	6	22	0	0
	PR T2	19	76	6	24	0	0	0	0
	LA T2	15	72	5	24	1	5	0	0
28	PR T1	10	36	11	39	5	18	2	7
	LA T1	9	32	13	46	6	21	0	0
	PR T2	10	40	6	24	9	36	0	0
	LA T2	6	29	8	38	6	29	1	5

PR = Principal Respondent

LA = Linking Agent

Key to Barriers:

- (22) Providing orientation and training for those who will be involved in implementing any changes you might make.
- (23) Providing training for those who will manage or evaluate the staff involved in implementing any innovation.
- (24) Securing outside help (consultants, advisers, trainers, etc.) to review your problem and help implement a solution.
- (25) Changing the structure of the current organization or the roles of people involved.
- (26) Improving the human relationships and group dynamics of those involved.
- (27) Strengthening the leadership available to the school.
- (28) Improving communication among the people and organizations that have to be involved.

n = 28 PR's and 28 matching LA's

TABLE 10 (Cont'd)

Barrier	Informant	1, 2, 3 = no barrier/ resolved/unimportant		4 = locally resolvable		5 = need help		6 = intractable	
		freq	%	freq	%	freq	%	freq	%
29	PR T1	10	36	11	39	7	25	0	0
	LA T1	10	35	17	61	1	4	0	0
	PR T2	10	40	9	36	6	24	0	0
	LA T2	4	19	10	48	5	24	2	10
30	PR T1	0	0	7	25	19	68	2	7
	LA T1	8	28	8	29	8	29	4	14
	PR T2	7	29	7	29	10	42	0	0
	LA T2	13	63	1	5	2	10	5	14
31	PR T1	2	7	11	39	14	50	1	4
	LA T1	5	18	11	39	8	29	4	14
	PR T2	5	20	12	48	8	32	0	0
	LA T2	9	43	3	14	5	24	4	19
32	PR T1	0	0	5	18	20	71	3	11
	LA T1	7	25	8	29	9	32	4	14
	PR T2	8	32	8	32	9	36	0	0
	LA T2	10	48	2	10	6	29	3	14
33	PR T1	3	11	4	14	18	67	2	7
	LA T1	4	14	10	36	5	18	9	32
	PR T2	6	24	6	24	12	48	1	4
	LA T2	8	38	3	14	5	24	5	24
34	PR T1	1	4	7	25	15	54	5	18
	LA T1	8	29	14	50	4	14	2	7
	PR T2	6	24	7	28	11	44	1	4
	LA T2	9	44	5	24	1	5	6	29
35	PR T1	1	4	13	48	12	44	1	4
	LA T1	8	29	13	46	7	25	0	0
	PR T2	3	12	9	38	12	50	0	0
	LA T2	5	25	5	24	10	48	1	5
36	PR T1	9	32	15	54	4	14	0	0
	LA T1	13	47	13	46	2	7	0	0
	PR T2	9	36	10	40	6	24	0	0
	LA T2	11	53	6	29	4	19	0	0
37	PR T1	2	8	5	18	6	22	14	52
	LA T1	5	18	10	36	0	0	13	46
	PR T2	5	23	4	18	5	23	8	36
	LA T2	5	24	4	19	1	5	11	52
38	PR T1	9	32	11	39	8	29	0	0
	LA T1	6	21	14	39	8	29	0	0
	PR T2	6	25	13	52	6	24	0	0
	LA T2	5	25	7	33	8	38	1	5
39	PR T1	8	28	10	36	10	36	0	0
	LA T1	10	36	17	61	1	4	0	0
	PR T2	8	32	9	36	8	32	0	0
	LA T2	5	24	14	67	2	10	0	0

PR = Principal Respondent

LA = Linking Agent

Key to Barriers:

- (29) Encouraging and reassuring those who will be affected by any changes.
- (30) Securing money or help to get information about possible innovations and develop plans for implementation.
- (31) Securing money or help to purchase or arrange for donation of materials, or make other arrangements for physical requirements associated with the installation of an innovation you might select.
- (32) Securing money or support to train personnel to be involved in solving the problem.
- (33) Securing money or help to plan and carry out a reorganization.

- (34) Securing money or help to hire additional personnel, or getting release time for existing personnel to be involved in solving the problem.
- (35) Getting results that others will believe show improvements.
- (36) Getting recognition for those who will have to work hardest to solve the problem.
- (37) Getting salary increases or advancements for those who will have to work hardest to solve the problem.
- (38) Reducing the tension or threat involved in trying something new.
- (39) Making sure that the training and experience that those involved will get is perceived by them to advance their individual careers.

n = 28 PR's and 28 matching LA's

TABLE 11

RESPONSE FREQUENCIES AND PERCENTS ON BARRIER SUBSCALES T1 AND T2

Subscale and Barriers Composing It	Informant	1, 2, 3 = No Barrier Resolved/Unimportant		4 = Locally Resolvable		5 = Need Help		6 = Intractable	
		freq	%	freq	%	freq	%	freq	%
Information about Innovations (11,12,14,15)	PR T1	19	17	12	11	79	71	2	2
	LA T1	43	38	15	13	54	48	0	0
	PR T2	30	30	2	8	66	66	2	2
	LA T2	47	56	16	19	18	22	3	4
Interpersonal Relations (10,25-29,36)	PR T1	57	29	86	44	46	23	6	3
	LA T1	65	33	97	48	38	15	5	3
	PR T2	73	42	65	38	35	20	0	0
	LA T2	54	38	52	34	33	23	6	4
Securing Money (30-34)	PR T1	6	4	34	24	86	62	13	9
	LA T1	32	23	51	37	34	24	23	16
	PR T2	32	26	40	32	50	40	2	2
	LA T2	49	47	14	14	19	18	23	20
Problem Identification (1-5)	PR T1	55	40	43	31	40	25	0	0
	LA T1	87	62	47	33	6	4	0	0
	PR T2	72	57	26	21	26	21	1	1
	LA T2	74	71	23	22	7	5	1	1
Preparation for Innovation (6,9,18,22,23)	PR T1	27	20	54	36	58	41	1	1
	LA T1	51	37	38	27	49	35	0	0
	PR T2	39	32	35	28	50	40	0	0
	LA T2	42	41	27	26	35	34	0	0
Clarify Consequences (38,39)	PR T1	17	30	21	37	18	32	0	0
	LA T1	16	28	31	50	9	17	0	0
	PR T2	14	28	22	44	14	28	0	0
	LA T2	10	24	21	50	10	24	1	1

PR = Principal Respondent

LA = Linking Agent

Key to Barriers:

T1 n's: 56 PR's and 56 matching LA's
T2 n's: 50 PR's and 42 LA's

- (1) Getting new data about the nature of the problem.
- (2) Defining more precisely the causes of the problem.
- (3) Restating your goals, objectives and criteria for selecting a new course of action.
- (4) Articulating your view of the problem with the relevant literature, research, or known practice.
- (5) Identifying what you are already doing to resolve the problem.
- (6) Improving your group planning, decision-making, and general problem-solving skills.
- (9) Setting up a good monitoring, evaluation, and feedback system.
- (10) Securing more community and staff agreement and support for what needs to be done.
- (11) Finding out about the nature and range of innovations that might be available to help solve your problem.
- (12) Getting indepth information about just a few innovations that might help solve your problem.
- (14) Getting sample materials and/or orientation from the developers of new programs in the problem area.
- (15) Getting good, "hard" performance information about the effectiveness of programs you might consider for use in your situation.
- (18) Reorganizing or re-doing, or adding on to what you are already doing, rather than adopting something totally new.
- (22) Providing orientation and training for those who will be involved in implementing any changes you might make.
- (23) Providing training for those who will manage or evaluate the staff involved in implementing any innovation.
- (25) Changing the structure of the current organization or the roles of people involved.
- (26) Improving the human relationships and group dynamics of those involved.
- (27) Strengthening the leadership available to the school.
- (28) Improving communication among the people and organizations that have to be involved.
- (29) Encouraging and reassuring those who will be affected by any changes.
- (30) Securing money or help to get information about possible innovations and develop plans for implementation.
- (31) Securing money to purchase or arrange for donation of materials, or make other arrangements for physical requirements associated with the installation of an innovation you might select.
- (32) Securing money or support to train personnel to be involved in solving the problem.
- (33) Securing money or help to plan and carry out a reorganization.
- (34) Securing money or help to hire additional personnel, or getting release time for existing personnel to be involved in solving the problem.
- (36) Getting recognition for those who will have to work hardest to solve the problem.
- (38) Reducing the tension or threat involved in trying something new.
- (39) Making sure that the training and experience that those involved will get is perceived by them to advance their individual careers.

TABLE 11 (Cont'd)

Subscale and Barriers Composing it	Informant	1, 2, 3 = No Barrier Resolved/Unimportant		4 = Locally Resolvable		5 = Need Help		6 = Intractable	
		freq	%	freq	%	freq	%	freq	%
Integration (17,20)	PR T1	6	12	19	33	30	53	1	1
	LA T1	25	45	20	35	11	20	0	0
	PR T2	13	26	18	37	18	37	0	0
	LA T2	19	45	9	22	14	33	0	0
Outside Help (13,24)	PR T1	12	21	22	39	21	38	1	1
	LA T1	23	41	20	36	13	23	0	0
	PR T2	20	36	14	28	16	32	0	0
	LA T2	20	47	14	33	8	20	0	0

PR = Principal Respondent

LA = Linking Agent

Key to Barriers:

- (13) Visiting or talking to others to see what they are doing to solve the same problem you have.
- (17) Integrating new materials or procedures into your existing program.
- (20) Finding a way to put together a number of components from different sources that will fit your unique needs.
- (24) Securing outside help (consultants, advisers, trainers, etc.) to review your problem and help implement a solution.

T1 n's: 56 PR's and 56 matching LA's
T2 n's: 50 PR's and 42 LA's

E. Barriers (continued)

A comparison of barrier ratings of PR's with those of other site informants (I's) who were interviewed at the site shows remarkable agreement; e.g., for 37 of the 39 barriers the percent of PR ratings which were "need help" is within 10 of the percent of I ratings which were "need help" (refer back to Table 9). We suspected that a person's perception of barriers might be influenced by his/her job position, but dividing PR's and I's into groups based on job position (i.e., teacher, administrator, specialist, director) revealed no large or consistent differences in barrier perception between job positions.

We have seen that there are some differences between projects in barrier ratings. However, analysis of variance of T1 barrier ratings by linking agents with linking agents nested within projects (Table 12) indicates that most of the significant differences in barrier ratings are due to linking agent effects rather than to project effects. Note that the linking agent differences are significant ($p < .01$) for 34 of the 39 barriers; whereas, the project differences are significant for only 6 barriers. For 15 of the barriers, linking agent differences account for at least 50% of the variation in ratings between sites. In other words, a linking agent tends to make similar barrier ratings for different sites, but makes different ratings than do other linking agents. These findings suggest that much of the variability or lack of variability of barrier ratings from site to site is due to linking agents' predispositions to perceive or report certain types of barriers. It seems likely that such predispositions or "stereotypes" could influence the types of services a linking agent would try to provide.

TABLE 12

SIGNIFICANCE OF DIFFERENCES IN T1 BARRIER RATINGS
BETWEEN PROJECTS AND BETWEEN LINKING AGENTS WITHIN PROJECTS

Barrier	Project		LA	
	F	%V	F	%V
1	3.92**	16	1.57	11
2	2.27	11	3.50**	35
3	2.67*	12	2.67**	26
4	2.51	13	3.50**	35
5	3.28*	11	1.03	1
6	1.28	1	5.18**	52
7	2.07	6	1.27	6
8	1.38	2	6.38**	56
9	0.64	0	5.58**	54
10	2.18	8	2.01	19
11	1.41	3	6.08**	55
12	1.40	3	6.00**	55
13	1.02	0	8.73**	66
14	2.79*	18	7.24**	50
15	2.86*	19	8.28**	53
16	1.46	3	1.97**	20
17	1.84	6	2.36**	25
18	1.10	0	2.10**	22
19	2.26	14	10.76**	62
20	1.02	0	3.77**	42
21	0.90	0	2.96**	34
22	0.67	0	4.54**	48
23	0.90	0	5.32**	53
24	1.26	1	4.88**	50
25	0.84	0	2.67**	30

n = 125 ratings
(sites) by
26 Linking
Agents

*p<.05

**p<.01

F = analysis of
variance F
value

%V = percent of
variance
accounted for

Key to Barriers:

- | | |
|---|---|
| <p>(1) Getting new data about the nature of the problem.</p> <p>(2) Defining more precisely the causes of the problem.</p> <p>(3) Restating your goals, objectives and criteria for selecting a new course of action.</p> <p>(4) Articulating your view of the problem with the relevant literature, research, or known practice.</p> <p>(5) Identifying what you are already doing to resolve the problem.</p> <p>(6) Improving your group planning, decision-making, and general problem-solving skills.</p> <p>(7) Developing a procedure for involving more people in the problem-solving/decision-making process.</p> <p>(8) Developing a good plan to carry you through the problem-solving process.</p> <p>(9) Setting up a good monitoring, evaluation, and feedback system.</p> <p>(10) Securing more community and staff agreement and support for what needs to be done.</p> <p>(11) Finding out about the nature and range of innovations that might be available to help solve your problem.</p> <p>(12) Getting indepth information about just a few innovations that might help solve your problem.</p> <p>(13) Visiting or talking to others to see what they are doing to solve the same problem you have.</p> | <p>(14) Getting sample materials and/or orientation from the developers of new programs in the problem area.</p> <p>(15) Getting good, "hard" performance information about the effectiveness of programs you might consider for use in your situation.</p> <p>(16) Finding a well developed innovation that is ready-made for your situation and doesn't require a lot of effort to use.</p> <p>(17) Integrating new materials or procedures into your existing program.</p> <p>(18) Reorganizing or re-doing, or adding on to what you are already doing, rather than adopting something totally new.</p> <p>(19) Discovering innovative practices that other districts have invented to resolve a problem like yours.</p> <p>(20) Finding a way to put together a number of components from different sources that will fit your unique needs.</p> <p>(21) Securing additional part-time or full-time people to work on the problem.</p> <p>(22) Providing orientation and training for those who will be involved in implementing any changes you might make.</p> <p>(23) Providing training for those who will manage or evaluate the staff involved in implementing any innovation.</p> <p>(24) Securing outside help (consultants, advisers, trainers, etc.) to review your problem and help implement a solution.</p> <p>(25) Changing the structure of the current organization or the roles of people involved.</p> |
|---|---|

TABLE 12 (Cont'd)

Barrier	Project		LA	
	F	%V	F	%V
26	2.25	10	2.82**	30
27	3.96**	11	0.78	0
28	1.26	1	3.12**	35
29	1.12	0	4.67**	49
30	0.82	0	4.75**	50
31	0.80	0	3.50**	39
32	0.33	0	8.95**	67
33	1.63	5	6.23**	54
37	2.18	10	3.95**	39
35	2.33	10	2.72**	28
36	1.64	5	2.84**	30
37	0.74	0	5.15**	52
38	0.75	0	3.62**	40
39	0.58	0	2.25**	24

n = 125 ratings
(sites) by
26 Linking
Agents

*p<.05

**p<.01

NOTE: This data is based on the following rating scale.

- 3 = "no barrier," "unimportant barrier"
- 4 = "locally resolvable"
- 5 = "need help"
- 6 = "infractable"

Key to Barriers:

- | | |
|--|---|
| (26) Improving the human relationships and group dynamics of those involved. | (34) Securing money or help to hire additional personnel, or getting release time for existing personnel to be involved in solving the problem. |
| (27) Strengthening the leadership available to the school. | (35) Getting results that others will believe show improvements. |
| (28) Improving communication among the people and organizations that have to be involved. | (36) Getting recognition for those who will have to work hardest to solve the problem. |
| (29) Encouraging and reassuring those who will be affected by any changes. | (37) Getting salary increases or advancements for those who will have to work hardest to solve the problem. |
| (30) Securing money or help to get information about possible innovations and develop plans for implementation. | (38) Reducing the tension or threat involved in trying something new. |
| (31) Securing money to purchase or arrange for donation of materials, or make other arrangements for physical requirements associated with the installation of an innovation you might select. | (39) Making sure that the training and experience that those involved will get is perceived by them to advance their individual careers. |
| (32) Securing money or support to train personnel to be involved in solving the problem. | |
| (33) Securing money or help to plan and carry out a reorganization. | |

F. Particular problem at site

In an attempt to simplify the data from the T1 Questionnaire with regard to perceptions of the problem, cause, and past attempts to deal with the problem, a response category system based on expected responses and on content analysis of actual responses was developed. This has proved useful in characterizing the most frequently perceived problems and causes and determining the extent of agreement in perceptions between different types of respondents; however, scoring responses with this category system has been somewhat difficult and the quality and depth of responses to the questionnaire has not always been very good. Since, as will be seen, there is considerable agreement between types of respondents, use of the detailed Problem Identification Reports (PIDs) written by project personnel (one PID for each site) may prove to be at least as valid and informative as (and certainly more efficient than) use of the T1 Questionnaire. A comparison of randomly selected PIDs with T1 Questionnaires for the same sites indicated substantial agreement, but with considerably more detail and sophistication on the PIDs. Following will be a summary of the perceptions of problem, cause, and past actions, as derived from the coded tabulations of responses to the T1 Questionnaire. Then a brief summary of the information on problems and causes from the PIDs will be presented. (More detailed summaries of the PIDs by projects will be found in Appendix D.)

1. T1 Questionnaire data

It should first be noted that no data is presented for LA perceptions of problem and causes. LA's were asked to provide commentary on the PR responses to the questionnaire, but they provided very little disagreement or elaboration; apparently PR's and LA's were in almost total agreement as to the site's problems.

F. 1. (Continued)

Table 13 summarizes the frequencies and percents of responses in the various response categories for PR's and I's. Again, it can be seen that there is considerable agreement. The only significant disagreements are on what had been done in the past to solve the problem (PR's felt that changes had been made in curriculum and resources while I's thought changes had been primarily in resources) and in the degree of relationship between what respondents perceived to have been done in the past or what they would like to do in the future and the site problem (as judged by our staff, who coded the responses). There was judged to be a stronger relationship between what PR's thought had been done in the past and the problem than what I's thought had been done in the past and the problem. There was also judged to be a stronger relationship between what PR's would like to be done in the future and the site problem than there was for what I'd thought. As can be seen in the table, both types of respondents perceived the problem as a long-term one, primarily involving lack of expertise, but with a wide variety of causes.

Table 14 presents frequencies of categorized responses when PR's and I's are divided into groups according to the job function of the respondent. It can be seen that there are very few striking differences in responses between the different job functions.

An analysis of project differences in perceptions of problem, etc., as reflected in the frequencies of responses in the various categories, showed some differences in profiles of perceptions by projects, though great similarities as well. (See Table I in Appendix C for frequency and percent response category for the separate projects. Also see Table II

TABLE 13
PERCEPTIONS OF PROBLEM AND CAUSE
AT T1 BY TYPE RESPONDENT

Coding Categories	Type Respondent			
	PR		I	
	freq	%	freq	%
Problem content				
curriculum	56	42	22	24
expertise	60	44	47	52
resources	28	21	10	11
other technology	25	19	8	9
internal organization	21	16	13	14
Cause				
external organization	36	13	26	19
internal organization	38	15	20	15
resources	78	30	32	23
expertise	49	19	21	15
other technology	61	23	38	28
People in cause				
students	65	34	38	37
teachers	81	42	49	48
others	45	24	15	15
Evidence of problem				
tests	64	42	58	53
surveys	19	13	1	1
discussions	26	17	14	13
observation	43	28	36	33
Duration of problem				
less than 1 year	5	3	0	0
1-5 years	25	19	27	31
more than 5 years	104	78	60	69

Coding Categories	Type Respondent			
	PR		I	
	freq	%	freq	%
Evidence for amelioration				
cognitive skills	88	65	65	67
content sub. speciality	27	20	21	22
school procedures	20	15	11	11
Done in past				
altered	67	29	23	27
introduced	106	46	43	50
developed	55	25	20	23
curriculum	74	36	16	25
resources	91	45	44	70
testing	38	19	3	5
Relation to problem				
none/weak	62	27	39	40
moderate	107	47	32	33
strong	60	26	26	27
Like to do in future				
alter	86	38	54	54
introduce	84	37	29	29
develop	57	25	16	16
curriculum	53	27	21	25
resources	99	50	45	54
membership	22	11	6	8
expertise	23	12	11	13
students	73	47	27	40
teachers	82	53	40	60
Relation to problem				
none/weak	44	20	30	29
moderate	124	54	47	45
strong	60	26	28	26

n = 135 PR's (Principal Respondents) and
90 I's (other site Interviewees)

NOTE: A respondent can describe more than
one problem.

TABLE 14
PERCEPTIONS OF PROBLEM AND CAUSE
AT T1 BY JOB FUNCTION

Coding Categories	Teacher n=45		Administrator n=113		Specialist n=38		Director n=23	
	freq	%	freq	%	freq	%	freq	%
Problem Content								
curriculum	15	20	35	27	16	35	8	33
expertise	30	39	59	45	11	24	3	13
resources	10	13	13	10	10	21	4	17
other technology	11	15	13	10	4	9	1	4
internal organization	10	13	11	8	5	11	8	33
students	44	65	75	66	30	73	10	67
teachers	22	32	33	29	8	20	0	0
other	2	3	5	5	3	7	5	33
Cause of Problem								
external environment	20	20	29	17	5	7	4	11
internal organization	13	13	24	14	11	16	8	21
resources	19	19	49	28	28	41	10	26
expertise	20	20	22	12	14	20	10	26
other technology	29	29	51	29	11	16	6	16
students	35	40	42	35	17	37	4	14
teachers	32	36	56	47	18	39	13	45
other	11	24	22	18	11	24	12	41
Evidence of Problem								
tests	35	50	56	52	15	35	5	24
surveys	1	1	10	10	6	13	3	13
discussions	9	13	13	12	11	26	6	27
observation	25	36	28	26	11	26	8	36
Duration of Problem								
less than 1 year	1	2	1	1	0	0	0	0
1-5 years	16	25	26	28	10	28	3	15
more than 5 years	46	73	67	71	26	72	17	85
Evidence for amelioration								
cognitive skills	37	62	79	74	22	56	7	46
content sub. speciality	11	19	16	15	13	33	4	27
School procedures	11	19	12	11	4	11	4	27

NOTE: Principal Respondents and Other Site Respondents are included in each Job Function

TABLE 14 (Cont'd)

Coding Categories	Teacher n=45		Administrator n=113		Specialist n=38		Director n=23	
	freq	%	freq	%	freq	%	freq	%
Done in past altered introduced developed	20	37	39	25	13	24	11	33
	28	52	75	50	22	42	13	39
	6	11	39	25	18	34	10	28
curriculum resources testing	16	40	47	38	13	27	8	30
	22	55	65	52	32	65	15	55
	2	5	13	10	4	8	4	15
Relation to problem weak/none moderate strong	31	48	41	27	12	22	13	38
	12	16	63	41	35	65	17	50
	23	36	49	32	7	13	4	12
Like to do in future alter introduce develop	38	54	59	39	25	44	15	43
	16	22	63	41	17	30	11	31
	17	24	31	20	15	26	9	26
curriculum resources membership expertise	20	34	27	23	12	21	7	21
	23	39	63	55	30	54	22	65
	6	10	11	10	8	15	2	5
students teachers	10	17	14	12	6	10	3	9
	28	52	41	42	18	49	8	33
	26	48	57	58	19	51	16	67
Relation to problem none/weak moderate strong	19	26	29	20	14	23	10	29
	27	36	72	48	41	67	20	57
	28	38	48	32	6	10	5	14

F. 1. (Continued)

for data summarized for PR's and I's combined.) Tables 13 and 14 and the appended analyses indicate that the problem is usually seen as involving expertise or curriculum, usually with a long history (over five years). There are a wide variety of perceived causes involving both students and teachers, and home environment as well as school resources, expertise, and organization. Regardless of the specific problem or perceived cause, the problem is usually identified by testing or observation and would be regarded as successfully ameliorated if student cognitive skills improved. Past attempts at solution have mostly involved modifications or increases in resources and curriculum, and desired future attempts would involve more of the same, with emphasis on resources rather than curriculum. Few of these findings are surprising or especially illuminating, and detailed reading of individual questionnaires did not add much to this tabulated summary. As previously mentioned, we found the PIDs to be a richer source of information about sites. A brief summary of findings from content analysis of the PIDs follows. (See Appendix D for more detailed summaries for separate projects.)

2. Problem Identification Description (PID) data

Cause of the Problem. The cause of the problem was not specifically asked for in the PID reports; however, many of them mentioned problem causes in their description of the problem. Most causes mentioned were the same as those reported from the questionnaire (expertise, material and money resources). Several sites in one project reported "no identified cause but we are working on it"; other causes mentioned were poor geographical location, isolation (150 miles or more) from the nearest university, and compulsory desegregation.

F. 2. (Continued)

The Problem. As has been previously stated, the most common problem areas were in curriculum and expertise; however, the PRs provide much more indepth information about the specific problems faced by sites. In addition, several types of problems not mentioned in the questionnaires appear with some regularity in the PIDs, e.g., the need for more time to improve instructional programs, lack of continuity due to large teacher turnover, lack of qualified substitutes, and difficulty in recruiting teachers qualified to teach effectively in schools with a high percentage of low-income and minority students. (Also, there was an unexpected interest in moving toward the middle school concept.)

Past Efforts. Within five of the projects, sites reported few efforts made to address the problem and even that the efforts made were no more than "bandaid" solutions. Other examples of incomplete efforts are: committee work on goals, with little adoption, and introduction of computer terminals without training the teachers to use them. Other interesting past efforts apparent in the PIDs are: "tried different time schedules," "parents gave presentations on careers/job placement," "schools linked with local businesses," "tried student visits to various career centers/organizations," "teachers are furthering their education independently at colleges and universities," and "attitudes are changing under new school administration."

II. STRATEGIES

The "strategy" variables in this study are characteristics of the dissemination tactics used by the R&D Utilization projects. Most of this information is provided by the transaction logs completed by project personnel, which provide a wealth of data on the types and levels of effort projects evidence in interacting with a site. The transaction logs provide data for each transaction on its length, the type and number of personnel involved, who initiated the transaction, the intent and conditions addressed, and the form of contact used to request and deliver help. Comparisons on these variables were made between projects and between linking agents within projects.

Some information about strategies was also gathered from the Problem Identification Reports (PIDs). Information about the types of agencies gone to for help by sites (which was included as part of the T1 Questionnaire) was also thought to be indirectly related to strategies.

A. Summary of data on strategies

1. The types of agencies most frequently contacted for help are colleges and universities, state education agencies, and federal programs; while private consulting firms, R&D laboratories and centers, professional associations, and information centers are rarely contacted.
2. There are considerable differences between projects in the number and type of agencies contacted for help.
3. There are large differences between projects in the average number of transactions reported per site and in the average number of hours of effort per transaction (ranging from an average of 1.1 hours to 14.3 hours).

A. Summary (continued)

4. Most time per site and per transaction in the problem identification phase is spent on services with the intent of providing information and clarifying the problem. In the second phase (solution selection), most time is spent on providing information. In the third phase (implementation), most time is spent on training or orientation, planning, and providing information.
5. Most time per site and per transaction in the problem identification phase is spent on activities which address the need for (condition of) opportunity, knowledge, and plans. The conditions of knowledge and plans are also the focus of most of the effort at phases 2 and 3, though considerable effort is also devoted at phase 3 to the innovation condition.
6. Principals and teachers are the site personnel most frequently involved in reported transactions regardless of phase. Linking agents/facilitators are the only personnel external to the site who are involved in more than 1/10th of the transactions, and they are involved in almost all transactions.
7. There are differences between projects in frequencies and types of transactions reported, but most of the significant differences are due to linking agent differences (presumably in style and methods) rather than to project differences (e.g. differences between projects in types of sites selected or linking agent selection or training).
8. For all projects, most transactions are initiated by project personnel.

A. Summary (continued)

9. Telephone calls and project personnel visits to sites are the most frequent methods used to request and to deliver help for all projects.
10. Most transactions are completed within one day, especially those for which the requests were received by telephone.
11. In most cases, principals and head teachers were the leaders of the decisionmaking teams and the advisory committees, although in some instances project personnel were the prime movers.
12. The problem most frequently mentioned in the questionnaires and PIDs involved inadequate expertise and curriculum.
13. One of the problems most frequently mentioned in the PIDs was difficulty in recruiting or training qualified teachers (i.e., teachers competent to deal with the particular problems of low-income and minority students).
14. The causes most frequently mentioned involve inadequate resources or expertise, although a wide variety of causes were cited, e.g., schools, teachers, students, and parents.
15. Frequently it was felt that very little had been done in the past to address the problem. Most attempts at solution involved modification or increases in resources and curriculum.
16. There was substantial agreement between PRs and Is on the nature of the problem, its cause, and past attempts at its solution.
17. Outside help in the form of training sessions and technical assistance was most often provided by the projects, although in a few cases colleges or universities provided this help.

A detailed presentation and discussion of the data on strategies follows. For those readers who wish to skip these details, turn to page 111 for a summary of the findings on relationships between antecedents and strategies.

B. Type of agencies gone to

Table 15 shows the number and percent of PR's who reported going to each type of agency for some kind of help. It can be seen in the "Total" column that the most frequently used agencies were colleges and universities, state education agencies, and Federal programs; while private consulting firms, R&D laboratories and centers, professional associations, and information centers were rarely used for help. Although these findings were generally true for all projects, there were some striking differences between projects in the frequencies and patterns of use of the various agencies. The average number of types of agencies contacted for help by PR's in Project 5 was less than one per PR, whereas all other projects averaged between one-and-a-half and three types of agencies per PR. While PR's in some projects hardly ever contact regional service agencies, they are the type of agency most frequently contacted by PR's in Project 4. These and other differences found in the table probably reflect differences in availability and function of the different types of agencies in the different states, as well as differences in preferences and strategies between projects. Since different types of agencies tend to be contacted for different types of help (see Section III-A on relationships between antecedents [help needed] and strategies [agency sought]), project differences in agencies sought may also reflect differences in the type of help needed or in the kind of help likely to be available.

TABLE 15
TYPE AGENCIES GONE TO BY PROJECTS

Type Agency	PROJECT 3 n=28		PROJECT 4 n=18		PROJECT 5 n=10		PROJECT 6 n=23		PROJECT 7 n=27		PROJECT 8 n=23		PROJECT 9 n=42		Total n=171	
	freq	%	freq	%	freq	%	freq	%	freq	%	freq	%	freq	%	freq	%
State Education Agency	7	25	10	55	0	0	8	35	10	36	4	17	35	83	74	43
Regional Service Agency	0	0	14	77	2	20	2	9	5	18	7	30	18	43	48	28
Information Center	1	3	2	11	1	10	3	13	3	11	0	0	4	10	14	8
Private Consulting Firm	0	0	0	0	0	0	0	0	1	3	0	0	0	0	1	1
College/University	11	40	13	72	0	0	10	43	15	55	10	43	23	55	82	58
Federal Program	16	57	9	50	4	40	9	40	14	52	17	74	6	14	75	43
Professional Association	2	7	0	0	0	0	3	13	4	15	0	0	5	12	14	8
Regional R&D Labs/center	2	7	1	5	0	0	1	4	2	7	4	17	0	0	10	6
Commercial Publisher	5	18	5	28	1	10	5	22	4	15	8	35	5	12	33	19
Other Agency	2	7	2	11	0	0	2	9	3	11	4	17	7	17	20	12
Average # Agencies per Respondent	1.6		3.1		0.8		1.9		2.2		2.3		2.5			

NOTE: frequency = number of Principal Respondents who reported going to that type agency
percent = percent of Principal Respondents in project who reported going to that agency

C. Transaction Logs

The transaction logs provided a considerable amount of data, much of which can be found in Tables III, IV, and V of Appendix C for those interested in characteristics of transactions for particular projects. Project differences on some of the variables are shown in detail in tables in this section; for other variables, only examples from the complete tables in Appendix C are included in this section. Because we would expect different purposes for and different types of transactions during the different phases of problem solution, we have grouped all transactions into one of three phases (problem identification--site selection, problem definition, and needs assessment; solution selection--search criteria, search for alternatives, decisionmaking; and implementation--planning for implementation, implementation, and evaluation), and have analyzed transaction characteristics and project differences in these characteristics separately for each of the three phases.

1. Level of project effort, intent of services, and conditions addressed

As can be seen in Table 16, the average number of transactions reported per site is more than four for the first two phases and less than three for the third phase. There are large project differences in this variable, perhaps due to different interpretations of a "transaction." Although the average transaction involves 3-4 hours, there are, again, very substantial differences between projects, ranging from an average of 14.3 to an average of 1.1 hours per transaction. Again, this may reflect different interpretations of what to report as a transaction or it may reflect real differences between projects in level of effort. Analysis of variance (with linking agents nested within projects) shows that differences in hours per transaction are statistically significant between linking agents within

TABLE 16

Level of Effort By Project and Phase

Project	Phase	#Sites	# Logs	Logs/ Site	Hours Effort/ Site	Hours Effort/ Log
4	1	24	131	5.5	8.4	1.5
	2	8	25	3.3	11.3	3.6
	3	8	29	3.6	8.3	2.3
5	1	11	94	8.5	24.4	2.9
	2	4	50	12.5	25.5	2.0
	3	2	6	3.0	10.3	3.5
6	1	4	7	1.8	13.8	7.9
	2	8	62	7.8	19.9	2.6
	3	17	69	4.1	16.9	4.1
7	1	30	66	2.2	4.2	1.9
	2	28	100	3.6	8.1	2.3
	3	19	45	2.4	2.5	1.1
8	1	11	25	2.3	32.5	14.3
	2	8	18	2.3	17.2	7.6
	3	6	6	1.0	3.1	3.1
Average Across Projects	1	16	64.6	4.1	16.7	4.1
	2	11.2	51.0	4.6	16.4	3.6
	3	10.4	31.0	2.8	8.2	2.9

Key to Phases: Phase 1 = Problem Identification

Phase 2 = Solution Search

Phase 3 = Implementation

C. 1. (Continued)

projects, but not between projects (see Table 17). This suggests that the differences in level of effort (or interpretation of "transaction") are due to differences in individual linking agents regardless of project rather than to project differences in choice of sites or selection or training of linking agents.

Table 18 provides data on the level of effort for the various service intents. The numbers in the table represent the average number of hours per site (h/s) and per transaction (h/t) for which the indicated service was reported to be the most important one of the transaction. Most time during phase 1 is spent on services intended to provide information (S2 = 1.1 hours/log) and clarify the problem (S3 = 0.8 hours/log). During phase 2, most time is spent in providing information (1.4 hours/log). Most time during phase 3 is spent on training or orientation (S6=1.2 hrs/log), planning (S5=0.6 hrs/log), and providing information (S2=0.5 hrs/log). Again, there are considerable differences between projects; for example, average hours per transaction for problem clarification (S3) ranges from 8.2 for Project 8 to 0 for Project 4.

TABLE 17

SIGNIFICANCE OF DIFFERENCES IN SELECTED TRANSACTION LOG VARIABLES
BETWEEN PROJECTS AND BETWEEN LINKING AGENTS WITHIN PROJECTS

TRANSACTION LOG VARIABLE	PHASE 1				PHASE 2				PHASE 3			
	PROJECT		LA		PROJECT		LA		PROJECT		LA	
	F	%V	F	%V	F	%V	F	%V	F	%V	F	%V
Hours/site	2.26	14	26.04**	78	1.10	0	1.40	13	7.42**	22	0.42	0
Hours/log	2.10	10	5.48**	56	0.34	0	2.91**	43	1.86	11	1.61	16
Logs/site	5.68**	35	3.84**	32	2.67	16	1.75	17	1.78	11	3.09**	40
Total I/log	2.38	13	4.60**	48	1.59	8	3.75**	44	2.71	19	1.93*	22
Total E/log	4.92**	29	2.58**	26	3.14*	30	9.43**	52	5.43**	50	17.42**	43
I 4/log	9.74**	52	3.72**	23	7.05**	47	3.13**	22	8.00**	54	3.37**	22
I 6/log	1.38	1	8.40**	72	1.79	10	2.62**	32	0.60	0	5.09**	61
IA1/log	0.33	0	9.08**	73	2.04	12	2.63**	31	1.11	2	4.75**	59
S 4/log	6.38**	41	5.47**	35	7.11**	47	3.09**	22	0.83	0	2.75**	41
S 6/log	11.46**	54	3.08**	19	0.50	0	6.33**	64	2.00	14	3.34**	41
C 4/log	1.39	2	4.60**	54	3.48*	27	3.37**	32	0.42	0	15.90**	85
C 9/log	0.63	0	4.06**	51	0.30	0	5.43**	61	0.72	0	8.00**	73
Hrs X S 2/log	0.67	0	17.19**	86	0.14	0	1.92	27	0.45	0	18.29**	87
Hrs X C 8/log	1.77	6	18.02**	81	0.47	0	5.74**	65	0.65	0	23.72**	89

Key

*p<.05

**p<.01

Phases: Phase 1 = Problem Identification
Phase 2 = Solution Search
Phase 3 = Implementation

F = analysis of variance
F value

%V = Percent of variance
accounted for

Total I/log = Average number of site (internal) people involved in transactions per transaction

Total E/log = Average number of external personnel involved in transactions per transaction

I 4/log = Proportion of transactions in which principals were involved

I 6/log = Proportion of transactions in which teachers were involved

IA1/log = Proportion of transactions initiated by project personnel

S 4/log = Proportion of transactions with decision-making intent

S 6/log = Proportion of transactions with training or orientation intent

C 4/log = Proportion of transactions addressing knowledge condition

C 9/log = Proportion of transactions addressing time condition

Hrs x S2/log = Average number of hours per transaction spent on providing information

Hrs x C8/log = Average number of hours per transaction spent addressing the need for plans

TABLE 18

LEVEL EFFORT ON SERVICES BY PROJECT AND PHASE

Project	Phase	# Sites	# Logs	S1		S2		S3		S4		S5		S6		S7		S8		S9	
				Hours/ Site	Hours/ Log	Hours/ Site	Hours/ Log	Hours/ Site	Hours/ Log	Hours/ Site	Hours/ Log	Hours/ Site	Hours/ Log	Hours/ Site	Hours/ Log	Hours/ Site	Hours/ Log	Hours/ Site	Hours/ Log	Hours/ Site	Hours/ Log
4	1	24	131	1.1	0.2	2.7	0.5	0.2	0.0	0.4	0.1	2.1	0.4	0.2	0.0	0.0	0.0	0.8	0.1	0.5	0.1
	2	8	25	0.3	0.1	2.8	0.9	0.0	0.0	0.5	0.2	0.2	0.1	0.0	0.0	0.0	0.0	2.8	0.9	4.8	1.5
	3	8	29	1.4	0.4	0.6	0.2	0.0	0.0	0.0	0.0	2.2	0.6	3.5	1.0	0.0	0.0	0.5	0.1	0.0	0.0
5	1	11	94	1.3	0.2	18.3	2.1	1.1	0.1	0.9	0.1	2.7	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	2	4	50	0.9	0.1	6.1	0.5	4.2	0.3	3.4	0.3	9.2	0.7	0.0	0.0	1.8	0.1	0.0	0.0	0.0	0.0
	3	2	6	0.0	0.0	0.5	0.2	0.0	0.0	1.5	0.5	8.3	2.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6	1	4	7	0.0	0.0	5.3	3.0	8.3	4.7	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	2	8	62	1.9	0.2	10.9	1.4	0.8	0.1	1.1	0.1	2.0	0.3	2.7	0.4	0.4	0.0	0.0	0.0	0.0	0.0
	3	17	69	0.0	0.0	3.4	0.8	0.3	0.1	0.1	0.0	2.4	0.6	9.2	2.3	0.4	0.1	0.2	0.1	0.9	0.2
7	1	30	66	2.1	0.9	1.0	0.4	0.4	0.2	0.0	0.0	0.2	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.5	0.2
	2	28	100	2.2	0.6	3.9	1.1	0.1	0.0	0.1	0.0	0.1	0.0	1.7	0.5	0.1	0.0	0.0	0.0	0.0	0.0
	3	19	45	0.6	0.2	1.0	0.4	0.0	0.0	0.0	0.0	0.7	0.3	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.1
8	1	11	25	1.5	0.6	1.7	0.7	18.6	8.2	0.1	0.0	0.1	0.0	9.8	4.3	0.0	0.0	0.7	0.3	0.0	0.0
	2	8	18	0.8	0.3	8.3	3.7	1.0	0.4	2.0	0.9	4.1	1.8	0.0	0.0	1.0	0.4	0.0	0.0	0.0	0.0
	3	6	6	0.0	0.0	0.4	0.4	0.0	0.0	0.2	0.2	1.7	1.7	0.0	0.0	0.0	0.0	0.8	0.8	0.0	0.0
Average Across Projects	1	16.0	64.6	1.7	0.4	4.4	1.1	3.3	0.8	0.3	0.1	1.1	0.3	1.5	0.4	0.0	0.0	0.3	0.0	0.4	0.1
Total Hrs/ Sites and Total Hrs/ Logs	2	11.2	51.0	1.6	0.3	6.4	1.4	0.6	0.1	0.9	0.2	1.6	0.4	1.3	0.3	0.4	0.1	0.4	0.1	0.7	0.1
	3	10.4	31.0	0.4	0.1	1.6	0.5	0.1	0.0	0.1	0.0	1.9	0.6	3.5	1.2	0.2	0.1	0.3	0.1	0.4	0.1

Key to Services Ranked Most Important in Transaction:

S1 = stimulate, initiate, or motivate

S2 = provide information

S3 = problem clarification

S4 = decision-making

S5 = planning

S6 = training or orientation

S7 = conflict resolution or mediation

S8 = evaluation

S9 = other

C. Transaction Logs

1. (Continued)

Table 19 provides comparable level of effort data for the various conditions addressed. Most time during phase 1 is devoted to transactions which address the need for opportunity ($C2=0.9$ hours/log), knowledge ($C4=0.6$ h/l), and plans ($C8=0.5$ h/l). Most transaction time during phases 2 and 3 also involves activities that address the needs for knowledge and plans (though the need for innovation also occupied a considerable amount of transaction time during phase 3-- $C5=0.6$ hrs/l). As in the case of services, hours/transaction involving the various conditions differs greatly between projects. Table 17 presents the nested analysis of variance results for a few selected services and conditions (the results for all the transaction log variables are found in Tables III and IV in Appendix C). Table 17 suggests that there are significant differences in the level of effort addressed to the various purposes between individual linking agents within projects, but not between project themselves. However, Table 17 also indicates that for some of the services and conditions (e.g., S4/log, S6/log), there are significant differences between projects as well as between linking agents within projects in the frequency that the particular service or condition is ranked as the most important one transactions. Apparently, then, the projects have some influence, through selection or training, on the priority of purposes for transaction (though not on the amount of time spent on transactions with different purposes).

TABLE 19

LEVEL EFFORT ON CONDITIONS BY PROJECT AND PHASE

Project	Phase	# Sites	# Logs	C1		C2		C3		C4		C5		C6		C7		C8		C9		C10	
				Hours/ Site	Hours/ Log	Hours/ Site	Hours/ Log	Hours/ Site	Hours/ Log	Hours/ Site	Hours/ Log	Hours/ Site	Hours/ Log	Hours/ Site	Hours/ Log	Hours/ Site	Hours/ Log	Hours/ Site	Hours/ Log	Hours/ Site	Hours/ Log	Hours/ Site	Hours/ Log
4	1	24	131	1.0	0.2	1.2	0.2	0.8	0.2	1.1	0.2	0.1	0.0	1.0	0.2	0.7	0.1	1.7	0.3	0.0	0.0	0.8	0.1
	2	8	25	0.0	0.0	0.1	0.0	0.2	0.1	1.3	0.4	4.4	1.4	1.3	0.4	0.1	0.0	2.4	0.8	0.0	0.0	1.6	0.5
	3	8	29	0.0	0.0	0.2	0.0	1.3	0.3	4.1	1.1	0.2	0.1	1.2	0.3	0.0	0.0	1.2	0.3	0.0	0.0	0.0	0.0
5	1	11	94	3.4	0.4	0.9	0.1	2.8	0.3	10.1	1.2	0.0	0.0	1.3	0.1	4.7	0.6	1.1	0.1	0.0	0.0	0.0	0.0
	2	4	50	3.0	0.2	0.0	0.0	6.3	0.5	3.7	0.3	0.0	0.0	4.7	0.4	4.0	0.3	4.0	0.3	0.0	0.0	0.0	0.0
	3	2	6	0.0	0.0	0.5	0.2	3.7	1.2	0.0	0.0	5.0	1.7	0.0	0.0	1.2	0.4	0.0	0.0	0.0	0.0	0.0	0.0
6	1	4	7	1.2	0.7	7.5	4.3	4.3	2.4	0.8	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	2	8	62	2.5	0.3	3.7	0.5	0.9	0.1	10.9	1.4	0.8	0.1	0.3	0.0	0.0	0.8	0.1	0.2	0.0	0.0	0.0	0.0
	3	17	69	1.4	0.3	0.0	0.0	0.0	0.0	3.1	0.8	5.0	1.2	0.5	0.1	3.3	0.8	3.5	0.7	0.0	0.0	0.0	0.0
7	1	30	56	0.4	0.2	1.2	0.5	0.0	0.0	1.2	0.6	0.0	0.0	0.0	0.0	0.2	0.1	0.4	0.3	0.0	0.0	0.7	0.3
	2	28	100	1.2	0.3	0.1	0.0	0.1	0.0	1.6	0.5	0.0	0.0	1.2	0.3	0.0	0.0	3.9	1.1	0.0	0.0	0.0	0.0
	3	19	45	0.1	0.0	0.0	0.0	0.0	0.0	0.7	0.3	0.0	0.0	0.8	0.3	0.0	0.0	0.9	0.4	0.1	0.0	0.0	0.0
8	1	11	25	1.1	0.5	18.5	4.2	0.7	0.3	1.6	0.7	0.1	0.1	0.2	0.1	0.2	0.1	10.0	4.4	0.0	0.0	0.0	0.0
	2	8	18	0.0	0.0	0.0	0.0	8.3	3.7	1.3	0.6	0.4	0.2	1.6	0.7	0.3	0.1	5.4	2.4	0.0	0.0	0.0	0.0
	3	6	6	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.4	0.0	0.0	0.0	0.0	0.8	0.8	1.9	1.9	0.0	0.0	0.0	0.0
Avg Across Projects Tot hrs/sites and Tot hrs/logs	1	16	64.6	1.1	0.3	3.7	0.9	1.0	0.2	2.4	0.6	0.0	0.0	0.5	0.1	1.0	0.2	2.2	0.5	0.0	0.0	0.5	0.1
	2	11.2	51.0	1.2	0.3	0.6	0.1	1.8	0.4	3.0	0.7	0.8	0.1	1.4	0.3	0.3	0.1	3.5	0.8	0.0	0.0	0.2	0.0
	3	10.4	31.0	0.5	0.2	0.0	0.0	0.3	0.1	1.9	0.6	1.9	0.6	0.7	0.2	1.2	0.4	1.7	0.6	0.0	0.0	0.0	0.0

Key to Conditions Ranked Most Important for Transaction:

C1 = organizational development

C2 = opportunity

C3 = reasons for change effort

C4 = knowledge

C5 = innovation

C6 = material resources

C7 = human resources

C8 = plans

C9 = time

C10 = other

C. Transaction Logs (continued)

2. Personnel involved in transactions

Table 20 (and Table V in Appendix C) indicates that principals and teachers are the site personnel most frequently involved in transactions regardless of phase (each being involved in approximately half the transactions: $14/\log=.5$, $.4$, $.5$ and $16/\log=.5$, $.5$, and $.4$ respectively for phases 1, 2, and 3.) Among external personnel, linking agents/facilitators are involved in nearly every transaction; no other external personnel are involved in more than 1/10 of the transactions on the average though there is higher involvement for some personnel if one looks at individual project data (Table V), e.g. in Project 5 sites, especially at Phase 3, project developers/trainers and project information specialists (E4 and E5 respectively) are involved in a large proportion of transactions. There are differences between projects on involvement of some of the internal and external personnel. Table 21 provides a few examples of comparisons of individual projects for some of the variables on which there are significant project differences. For example, it can be seen that Projects 8 and 6 involve principals (I4) more frequently in transactions than do Projects 4 and 7 regardless of phase. These same kind of comparisons (Duncan Individual Comparison Test) could be run for all the transaction log variables for which project differences (or linking agent differences if one were interested in comparing individual linking agents) are significant.

TABLE 20

SELECTED PERSONNEL, SERVICES, AND CONDITIONS INVOLVED
IN TRANSACTIONS BY PROJECT AND PHASE

Project	Phase	#Sites	#Logs	Tot I/Site	Tot I/Log	Tot E/Site	Tot E/Log	I 4/Log	I 6/Log	E 1/Log	S 2/Log	IA1/Log	D 3/Log	C 4/Log
4	1	24	131	16.5	2.8	7.4	1.3	0.2	0.2	1.0	0.4	0.7	0.4	0.2
	2	8	25	5.0	1.5	4.8	1.4	0.1	0.2	1.0	0.5	0.7	0.2	0.2
	3	8	29	8.5	2.2	6.0	1.5	0.3	0.3	1.0	0.5	0.7	0.3	0.1
5	1	11	94	41.1	4.4	16.3	1.8	0.5	0.6	1.0	0.7	0.5	0.5	0.3
	2	4	50	33.0	2.2	37.0	2.5	0.4	0.4	1.0	0.3	0.4	0.2	0.1
	3	2	6	13.5	4.5	13.5	4.5	0.7	0.5	1.0	0.2	0.5	0.3	0.0
6	1	4	7	10.0	6.3	2.0	1.3	0.8	0.6	1.0	0.5	0.4	0.9	0.3
	2	8	62	21.2	2.6	9.4	1.1	0.5	0.5	1.0	0.3	0.5	0.4	0.2
	3	17	69	15.0	3.2	5.8	1.2	0.6	0.4	1.0	0.2	0.4	0.5	0.2
7	1	30	66	7.2	3.5	2.6	1.3	0.2	0.5	0.9	0.5	0.6	0.3	0.3
	2	28	100	7.8	1.9	4.8	1.1	0.2	0.6	0.4	0.5	0.4	0.1	0.6
	3	19	45	4.2	1.8	2.7	1.1	0.0	0.2	0.9	0.4	0.5	0.1	0.2
8	1	11	25	13.5	6.0	5.2	2.3	1.0	0.5	0.9	0.3	0.7	0.4	0.2
	2	8	18	11.9	4.8	5.8	2.3	0.9	0.8	1.0	0.5	0.1	0.6	0.4
	3	6	6	2.8	2.8	2.2	2.2	1.0	0.7	0.8	0.5	0.8	0.5	0.5
Average Across Projects	1	16.0	64.6	17.6	4.6	6.7	1.6	0.5	0.5	1.0	0.5	0.6	0.5	0.3
	2	11.2	51.0	15.7	2.6	12.3	1.7	0.4	0.5	0.9	0.4	0.4	0.3	0.3
	3	10.4	31.0	8.8	2.9	6.0	2.1	0.5	0.4	1.0	0.4	0.6	0.3	0.2

Key

Phases: Phase 1 = Problem Identification
Phase 2 = Solution Search
Phase 3 = Implementation

Tot I/Site = Average number of times site (internal)
people involved in transactions per site

Tot I/Log = Average number of site (internal) people
involved in transactions per transaction

Tot E/Site = Average number of times external personnel
involved in transactions per site

Tot E/Log = Average number of external personnel in-
volved in transactions per transaction

C4/Log = Proportion of transactions addressing
knowledge condition

I4/Log = Proportion of transactions in which
principals were involved

I6/Log = Proportion of transactions in which
teachers were involved

E1/Log = Proportion of transactions in which
other project staff were involved

S2/Log = Proportion of transactions with the
intent of providing information

IA1/Log = Proportion of transactions initiated
by project personnel

D3/Log = Proportion of transactions involving
delivery of project personnel visit
to site

TABLE 21

EXAMPLE INDIVIDUAL COMPARISONS OF SIGNIFICANT
PROJECT DIFFERENCES IN TRANSACTION VARIABLES

VARIABLE	PROJECT LEVEL F	%V	PROJECT MEANS					SIGNIFICANT PROJECT DIFFERENCES
			4	5	6	7	8	
I 4/log (Phase 1)	9.74**	52	0.3	0.6	0.9	0.2	1.0	8,6 > 4,7
I 4/log (Phase 2)	7.05**	47	0.1	0.4	0.7	0.3	0.9	8,6 > 7,4
I 4/log (Phase 3)	8.00**	54	0.3	0.8	0.7	0.1	1.0	8 > 4,7
Logs/Site (Phase 1)	5.68**	35	5.8	9.3	1.6	2.1	2.3	5,4 > 7,6
S 6/log (Phase 1)	11.46**	54	0.0	0.0	0.0	0.0	0.4	8 > 5,4,7,6

** P < .01

%V = percent of variance accounted for

Key

I4/Log (Phase 1) = Proportion of transactions in which principals were involved during Problem Identification

I4/Log (Phase 2) = Proportion of transactions in which principals were involved during Solution Search

I4/Log (Phase 3) = Proportion of transactions in which principals were involved during Implementation

S6/Log (Phase 1) = Proportion of transactions with training or orientation intent during Problem Identification

C. Transaction Logs (continued)

3. Initiation of transaction

For all projects, project personnel initiate most of the transactions (IA1/log in Table 20 and Table V in Appendix C). The remaining 40% or so of the transactions are initiated in about equal number by site/school personnel and joint efforts of project and site/school personnel.

4. Form of contact

The most frequent channel for requests (regardless of phase) is the telephone, though project personnel visits to sites is also a frequent channel (1/5th of the transactions). These same two channels are the most frequent means of delivery as well, though delivery is reported to be more often made by project visits to site than by telephone (especially in Phase 1 when half of the transactions report delivery by site visit). This finding, however, may merely be indicating a reluctance to consider less formal contacts such as telephone calls, which would usually tend to be shorter in duration, as transactions worthy of reporting. There are considerable differences between projects in how frequently the types of contact are used (or are reported as being used); but in all projects telephone calls and project visits to site are the most frequently used both for request and delivery. Site visits to project and meetings (off site, off project) are rarely used.

5. Turnaround time

The great majority of all transactions (71 percent) are completed within one day, and 84 percent are handled within one week. However, five percent take longer than one month to complete. The telephone is the key to quick turnaround. Of all the requests received by telephone, 81 percent

C. 5. (Continued)

are completed in one day. If the R&DU project can make a delivery by telephone, 96 percent of these will be completed within one or at most two days.

Requests received by mail take significantly longer to complete. Only 29 percent are completed within one day; about half are completed within one week; but 20 percent require a month or longer to complete.

Requests that are initiated during face-to-face contacts tend to be completed faster than mail requests, but slower than telephone requests. (The one exception is requests initiated during visits by site personnel to project offices; nine out of the ten requests were completed on the same day of the visit, and the tenth one was completed one week later.) Of the seven logged requests initiated during a meeting (off-site, off-project), five were completed at that meeting, but two of the seven were not considered "completed" over three months later. If the request is initiated during a visit to the site, 56 percent are completed on the same day, and 84 percent are completed within the week.

There seems to be a slight relation between who initiates the request and how long it takes to complete. If the request is initiated by project personnel or is jointly initiated, 85 percent are completed the same day. Over 90 percent of project or jointly initiated requests are completed within a week, but 86 percent of site-initiated requests are completed by then.

D. Site Activities and Events (PIDs)

The PIDs were developed to provide data on the site activities and events in the problem identification process. Many of the reports do indeed contain a wealth of data on the activities and site/project persons involved, but

D. Site Activities and Events (continued)

given that there was no standard format for writing these reports, the PIDs contained a wide variety of detail and were of varied format (particularly the two sections concerning process and persons involved). Responses varied from one paragraph to several pages. This made it extremely difficult to obtain organized and comparable data from the sites.

Major activities ranged from site selection, orientation and/or training sessions, needs assessment, problem identification, selection of site committees, various committee meetings, developing criteria, and planning and development meetings to completion of problem identification. In one case, four out of eight sites reported no formal process.

In most cases, decision-making teams or advisory committees were established consisting of superintendents, principals, teachers, specialists, parents, and students. Principals and head teachers seemed to be leaders, although in some instances project personnel (e.g., linking agents or directors of evaluation) were the prime movers.

However, the actual number of teachers or site personnel involved was seldom reported and the amount of time spent on a particular activity was not usually recorded. Some sites reported the amount of time as being "from the time schools started" and some gave particular dates, but very little information on time spent exists.

In most cases outside help was provided by the projects. This usually took the form of conducting training sessions and/or providing expertise in data collection and analyses. A few sites reported outside assistance from colleges or universities involving consultants.

III. RELATIONSHIPS BETWEEN ANTECEDENTS AND STRATEGIES

Although the T2 and T3 data collection and analysis may be able to provide considerably more information about relationships between antecedents, strategies, and outcomes than we are able to at this point in time, we can present a few preliminary findings.

A. Summary of data on relationships between antecedents and strategies

1. The various types of agencies contacted for help by site principal respondents are asked for different kinds of help. For example, whereas state education agencies and regional services agencies are contacted for a wide variety of help, frequently including information, human resources and training, and planning; federal programs are usually contacted for help with money.
2. Correlations between perceptions of barriers at a site and a site's transactions indicate surprisingly little relationship between barriers to innovation and the specific intents and purposes of transactions between sites and linking agents involving selection and implementation of innovations.

A more detailed discussion of the relationships between antecedents and strategies follows. For the reader who would prefer to skip these details, turn to page for a summary of the findings on outcomes.

B. Relationship between type of help sought and type of agency gone to

It is clear from Table 22 that different types of help are sought from the different types of agencies. For example, 60 percent of the time federal programs are contacted for help, help with money is sought; whereas money is

TABLE 22
TYPE AGENCY GONE TO BY TYPE HELP SOUGHT

Type Agency	Type Help Sought										# of Sites who Went to Agencies				
	Money		Problem		Planning		Human		Info			Programs		Organization	
	freq	%	freq	%	freq	%	freq	%	freq	%		freq	%	freq	%
State Education Agency	19	23	16	19	23	35	27	32	33	39	21	25	6	7	74
Regional Service Agency	5	10	16	33	24	50	26	54	28	58	12	25	6	13	48
Information Center	3	21	2	14	1	7	6	43	8	57	1	7	1	7	14
Private Consulting Firm	0	0	0	0	1	100	0	0	0	0	0	0	0	0	1
College/University	3	4	15	18	21	26	51	62	30	37	17	21	8	10	82
Federal Program	45	60	11	15	19	25	27	36	25	33	23	31	9	12	75
Professional Association	0	0	2	14	3	21	4	29	9	64	1	7	3	21	14
Regional R&D Lab/Center	2	20	3	30	3	30	3	30	7	70	3	30	0	0	10
Commercial Publisher	1	3	1	3	5	15	11	33	20	61	20	61	0	0	33
Other Agency	4	20	5	25	4	20	8	40	7	35	3	15	3	15	20

NOTE: frequency = number of sites who reported going to that type of agency for that type of help
percent = of the times that type of agency was gone to, the percent of times that type of help was sought
(more than one type of help can be sought from an agency, so percents in row total more than 100%)

Types of Help Sought

money
problem definition or problem solving
planning
human resources and training
information
programs, innovations, products
organizational development

B. Relationship...(continued)

rarely the type of help sought of other types of agencies. Colleges and universities are contacted mostly for help with human resources and training, whereas state education agencies and regional services agencies are contacted for a wide variety of help, especially involving information, human resources and training, and planning.

C. Relationship between barriers and transactions

One might expect there to be some relationship between the perception of barriers to innovation at a site and the types and purposes of transactions a linking agent carries on with that site. To investigate this possibility, we inspected the correlations between a site's rating of each barrier (where a "need help" rating = 1 and all other ratings = 0) and the average number of times each service and condition is addressed per transaction for each of the three phases: problem identification, solution search, and implementation. We obtained two sets of these correlations, one with linking agent barrier ratings and one with principal respondent barrier ratings.

Only 9 percent of the correlations were significant (a little more than a chance percentage), and of those that were significant, only a few (10 percent) were .40 or greater (the highest correlation was .52). These findings resulted whether LA barrier ratings or PR barrier ratings were used. There was little continuity from phase to phase in which barriers were significantly correlated to a particular service or condition. This suggests either that types of services and conditions addressed differ greatly during the different phases or that the correlations are mostly random. Analysis of which barriers were significantly correlated to which services and conditions was not very productive statistically; none of the significant correlations seemed to be

C. Relationship...(continued)

what one might expect logically (e.g., "need help" on problem identification barriers being correlated with transaction effort on "problem clarification" services).

This brief preliminary analysis of barrier-transaction relationships, then, suggests very little relationship and little or no logical explanation for the relatively small number of significant relationships between T1 ratings of "need help" on specific barriers and the type of transaction that occurred.*

* Although the relationship is in the unexpected direction, the LA ratings of the "securing money" barriers (# 30-34) are consistently (for all three phases) significantly correlated with "material resources" transactions. The fact that all these correlations were negative is somewhat puzzling, since it implies that the more an LA perceives a site as needing help in securing money, the less the LA-site transactions address that need.

IV. OUTCOMES

Though most of the outcomes of the strategies (e.g., use of R&D products, student learning, problem solution) will not be measurable until T3, there are a few outcomes of interest which can be measured at T2. Although we have a very limited amount of T2 data, we can present some preliminary findings and conclusions. One source of information is an appraisal form given PR's and I's which asked for ratings of the value of the R&D Utilization process. Other sources of outcome data are the difference between perceptions of barriers at T1 and T2 and the differences in perceptions of the nature of the problem at T1 and T2.

A. Summary of outcome data

1. Most project respondents felt that the activities of the R&D Utilization Program were extremely or moderately helpful. Almost everyone indicated that they would like to engage in similar activities in the future.
2. Most barriers are rated as less important (i.e., less in need of help) at T2 than at T1 by both principal respondents and linking agents.
3. The ratings of barriers by PR's and LA's are more in agreement at T2 than at T1.
4. There is no evidence for an increased sophistication in perception of the problem or cause from T1 to T2; in fact, there is very little change of any kind in these perceptions in evidence from T1 and T2 questionnaires.

B. Appraisal of the R&D Utilization process

Table 23 summarizes the appraisals (included in the T2 Questionnaire) of a small number of PR's from Project 6 and PR's and I's from Project 7. It can be seen that most people rated the activities in all three phases (i.e., needs assessment/problem definition, solution search, and planning for implementation) as extremely or moderately helpful and felt that the right amount of time was spent on each of these phases. All but one respondent said they would engage in a similar process the next time. Most people rated the various school personnel (teaching staff of project, principal and administrative staff, superintendent, other key central office staff) as being very receptive to the problem-solving R&D Utilization effort, although school board, parents and community, and teaching staff not in project were rated as only slightly receptive. Even with data from only two projects, it can be seen that there are considerable differences in the number of days spent on the process between projects.

TABLE 23
APPRAISAL OF R&D UTILIZATION PROCESS

	Project 6 PR's n=10	Project 7 PR's n=10	Project 7 I's n=15
Mean days spent:			
on needs assessment	11.9	8.5	12.7
on solution search	39.2	6.7	6.8
on planning for implementation	6.7	2.6	2.7
% people rating right amount of time spent on:			
needs assessment	100	100	100
solution search	100	67	67
planning	83	80	80
mean rating* of value of:			
needs assessment	5.9	5.9	5.7
solution search	6.0	4.8	5.0
planning	5.6	4.6	4.8
% people rating activities "extremely helpful":			
needs assessment	90	90	75
solution search	100	0	38
planning	82	14	40

*Rating scale

6 = extremely helpful
5 = moderately helpful
4 = slightly helpful

3 = no effect or can't judge
2 = may be more harmful than helpful
1 = definitely harmful

PR = Principal Respondent
I = Interviewees

TABLE 23 (Cont'd)

	Project 6 PR's n=10	Project 7 PR's n=10	Project 7 I's n=15
Mean rating** of receptivity of:			
teaching staff of project	6.8	6.4	6.2
other teaching staff	6.0	5.2	5.3
principal/building admin staff	6.7	6.3	6.5
superintendent	6.2	6.5	6.7
other key central office staff	6.1	6.2	6.7
school board	5.8	5.3	6.4
parents and community	5.6	4.7	4.3
yourself	6.9	6.5	6.7
Average	6.3	5.9	6.1
% people who would undertake similar process next time	100	100	93

**Rating scale

- 7 = very positive
- 6 = moderately positive
- 5 = slightly positive
- 4 = neutral
- 3 = slightly negative
- 2 = moderately negative
- 1 = very negative

PR = Principal Respondent
I = Interviewees

C. Changes in perceptions of barriers from T1 to T2

Since we have a very limited amount of T2 data, comparison of perceptions of barriers at T1 and T2 had to be made using a small ($N = 28$) subsample of the T1 data for which responses at T2 are also available. Even though based on this small sample, it seems clear from Table 24 that barriers are rated as less important (less in need of help) at T2 than at T1 by both PR's and LA's. On 37 out of 39 barriers for PR's and on 23 out of 39 barriers for LA's, the mean rating by PR's is lower at T2 than at T1. Table 10 (page 76) shows even more dramatically the decrease in "need help" ratings from T1 to T2, especially for PR's. In addition, PR's and LA's are more in agreement about the importance of barriers at T2 than at T1 (on 29 out of 39 barriers, PR's and LA's are closer in number of "need help" ratings at T2 than at T1). Although this could be regarded as a positive outcome of the problem-solving/R&D Utilization process, it could also be due to statistical regression. (LA's at T1 had fewer "need help" ratings than did PR's and so had less room to decrease such ratings.)

It is interesting to look at the T1-T2 change in "need help" ratings on barrier subscales (factors). Table 11 (page 81) shows that whereas information about innovations and problem identification barriers are perceived to be less in need of help at T2 because they are thought to be no barrier or unimportant barriers, the fewer "need help" ratings of money barriers at T2 are only partially due to their being perceived then as no barrier or unimportant barriers; there is also a large increase in "intractable" ratings for money barriers from T1 to T2.

TABLE 24

BARRIER MEANS FOR T1 and T2

Barrier #	PR T1	PR T2	LA T1	LA T2
1	2.9	2.2	2.4	2.4
2	3.4	2.7	2.7	2.3
3	3.4	2.9	2.8	2.4
4	3.8	3.2	2.5	2.7
5	2.5	2.3	2.6	2.5
6	3.9	3.5	3.4	3.8
7	3.4	3.1	3.2	3.2
8	4.1	3.8	3.5	3.8
9	4.0	3.9	3.9	3.9
10	3.8	3.2	3.7	3.7
11	4.4	4.2	3.4	2.8
12	4.3	4.0	3.7	2.9
13	3.9	3.6	3.0	3.0
14	3.9	3.4	3.5	2.8
15	4.4	4.2	4.4	3.3
16	4.6	3.9	3.6	3.3
17	4.0	3.8	3.1	3.4
18	3.5	3.2	3.3	3.0
19	4.6	4.0	3.1	3.0
20	4.6	3.7	3.5	3.2
21	4.7	4.4	4.3	4.1
22	4.1	3.4	3.7	3.3
23	4.3	4.1	4.1	3.2
24	4.0	3.2	3.8	3.4
25	3.5	3.3	4.1	3.4
26	4.0	3.6	3.4	3.9
27	3.4	3.1	3.4	3.7
28	3.6	3.6	3.7	3.7
29	3.5	3.3	3.4	3.9
30	4.8	3.8	4.1	3.3
31	4.5	3.9	4.4	3.8
32	4.9	3.6	4.1	3.5
33	4.6	4.0	4.7	4.0
34	4.8	4.0	4.0	3.8
35	4.4	4.3	3.9	4.0
36	3.5	3.2	3.3	3.0
37	5.1	4.4	4.8	4.6
38	3.6	3.6	3.9	4.0
39	3.8	3.4	3.5	3.5
Total	4.0	3.6	3.6	3.4

n = 28 PR's (Principal Respondents) and 28 matching LA's (Linking Agents)

Key to Barriers:

- (1) Getting new data about the nature of the problem.
- (2) Defining more precisely the causes of the problem.
- (3) Restating your goals, objectives and criteria for selecting a new course of action.
- (4) Articulating your view of the problem with the relevant literature, research, or known practice.
- (5) Identifying what you are already doing to resolve the problem.
- (6) Improving your group planning, decision-making, and general problem-solving skills.
- (7) Developing a procedure for involving more people in the problem-solving/decision-making process.
- (8) Developing a good plan to carry you through the problem-solving process.
- (9) Setting up a good monitoring, evaluation, and feedback system.
- (10) Securing more community and staff agreement and support for what needs to be done.
- (11) Finding out about the nature and range of innovations that might be available to help solve your problem.
- (12) Getting indepth information about just a few innovations that might help solve your problem.
- (13) Visiting or talking to others to see what they are doing to solve the same problem you have.
- (14) Getting sample materials and/or orientation from the developers of new programs in the problem area.
- (15) Getting good, "hard" performance information about the effectiveness of programs you might consider for use in your situation.

- (16) Finding a well developed innovation that is ready-made for your situation and doesn't require a lot of effort to use.
- (17) Integrating new materials or procedures into your existing program.
- (18) Reorganizing or re-doing, or adding on to what you are already doing, rather than adopting something totally new.
- (19) Discovering innovative practices that other districts have invented to resolve a problem like yours.
- (20) Finding a way to put together a number of components from different sources that will fit your unique needs.
- (21) Securing additional part-time or full-time people to work on the problem.
- (22) Providing orientation and training for those who will be involved in implementing any changes you might make.
- (23) Providing training for those who will manage or evaluate the staff involved in implementing any innovation.
- (24) Securing outside help (consultants, advisers, trainers, etc.) to review your problem and help implement a solution.
- (25) Changing the structure of the current organization or the roles of people involved.
- (26) Improving the human relationships and group dynamics of those involved.
- (27) Strengthening the leadership available to the school.
- (28) Improving communication among the people and organizations that have to be involved.

- (29) Encouraging and reassuring those who will be affected by any changes.
- (30) Securing money or help to get information about possible innovations and develop plans for implementation.
- (31) Securing money to purchase or arrange for donation of materials, or make other arrangements for physical requirements associated with the installation of an innovation you might select.
- (32) Securing money or support to train personnel to be involved in solving the problem.
- (33) Securing money or help to plan and carry out a reorganization.
- (34) Securing money or help to hire additional personnel, or getting release time for existing personnel to be involved in solving the problem.
- (35) Getting results that others will believe show improvements.
- (36) Getting recognition for those who will have to work hardest to solve the problem.
- (37) Getting salary increases or advancements for those who will have to work hardest to solve the problem.
- (38) Reducing the tension or threat involved in trying something new.
- (39) Making sure that the training and experience that those involved will get is perceived by them to advance their individual careers.

Rating Scale:

- 1 = no barrier 4 = locally resolvable
 2 = resolved 5 = need help
 3 = unimportant 6 = intractable

D. Changes in perception of the problem and cause from T1 to T2

An increased sophistication in perception of problem or cause, or at least a change in perception, might have been expected as one of the results of the problem identification and solution search process. However, it can be seen in Table 25 (again based on the sample of 28 who gave responses at T1 and T2) that few changes of any kind took place in perceptions of problem or cause, although "other site informants" (I's) seemed to perceive more varied problems at T2 than at T1. In reading through the matching T1 and T2 questionnaires, only rarely did respondents indicate a change in perception; in most cases, they said "I think the same as I did before." This may well reflect a lack of change in perception, though it might just as well reflect a lack of interest in responding to the same questions they had previously been asked.

TABLE 25
PERCEPTION OF PROBLEM AND
CAUSE AT T1 AND T2

Coding Categories	PR T1		PR T2		I T1		I T2	
	freq.	%	freq.	%	freq.	%	freq.	%
Problem content								
curriculum	6	19	4	13	7	21	9	26
expertise	13	41	12	40	14	41	5	14
resources	1	3	4	13	4	12	6	18
other technology	3	9	4	13	4	12	7	21
internal organization	9	28	6	20	5	14	7	21
Cause								
external organization	5	14	5	14	8	21	5	16
internal organization	6	16	7	20	4	10	6	19
resources	8	22	7	20	11	28	6	19
expertise	9	24	8	23	4	10	2	7
other technology	9	24	8	23	12	31	12	39
People in cause								
students	12	38	11	34	12	43	11	42
teachers	14	43	15	47	10	36	9	35
others	6	19	6	19	6	21	6	23
Evidence for problem								
tests	10	37	8	28	16	59	15	65
surveys	1	4	1	3	0	0	0	0
discussions	7	26	7	24	1	4	1	5
observation	9	33	13	45	10	37	7	30
Duration of problem								
less than 1 year	0	0	0	0	0	0	0	0
1-5 years	5	22	5	22	6	25	6	25
more than 5 years	18	78	18	78	18	75	18	75
Evidence for amelioration								
cognitive skills	14	70	14	67	19	76	22	69
content subject	1	5	1	4	2	8	2	6
specialty								
school procedures	5	25	6	29	4	16	8	25
Done in past								
altered	17	46	17	45	7	25	7	25
introduced	8	22	9	24	12	41	12	41
developed	12	32	12	31	10	34	10	34
curriculum	12	39	13	41	5	22	5	22
resources	16	52	16	50	17	74	17	74
testing	3	9	3	9	1	4	1	4

PR = Principal Respondent

I = Interviewees

TABLE 25 (Cont'd)

Coding Categories	PR T1		PR T2		I T1		I T2	
	freq.	%	freq.	%	freq.	%	freq.	%
Relation to problem								
none/weak	4	12	5	15	11	34	11	34
moderate	18	57	18	55	9	29	9	29
strong	10	31	10	30	12	37	12	37
Like to do in future								
alter	18	50	17	45	16	48	9	56
introduce	9	25	10	26	10	30	6	38
develop	9	25	11	29	7	22	1	6
curriculum	7	25	10	32	5	17	4	25
resources	15	54	14	45	22	73	7	44
membership	3	10	4	13	1	3	4	25
expertise	3	10	3	10	2	7	1	6
students	11	42	12	41	8	36	3	21
teachers	15	58	17	59	14	64	11	79
Relation to problem								
none/weak	1	3	3	10	9	25	1	6
moderate	20	65	17	55	17	47	12	80
strong	10	32	11	35	10	28	2	14

n = 28 PR's (Principal Respondents) and I's (other Site Respondents)
from same 28 sites

TRANSFER OF R&DU OPERATIONS TO NEW STUDY CONTRACTOR

In preparation for the transfer of both raw and processed data to the new study contractor, a meeting was held on November 29-30, 1977, At Far West Laboratory. In attendance were Tom Israel (NIE), Mike Kane and Karen Louis (Abt Associates), and Paul Hood, Laird Blackwell, and Betty Pool (FWL staff).

Major agenda items were:

- Orientation to T1 and T2 data collection, analyses, and results to date;
- Strengths and weaknesses of resultant data base; and
- Knowledge base likely to emerge from the case studies.

Further discussion entailed the actual transfer of instruments and other relevant information. FWL offered to send the original instrument files and coding sheets in file folders taken directly from the file drawers and placed, in order, in boxes which were shipped air freight to Abt Associates in order to assure quick and efficient delivery, as well as completion of a smooth turn-key operation. These original files were shipped on December 5, 1977.

At the conclusion of the meeting it was agreed that, in the event Abt Associates might desire further assistance pertaining to data questions, suggestions/recommendations for further designing/refinement of instruments, etc., FWL staff would be available to meet again in Spring, 1978.

On December 15, 1977, a brief listing of data management procedures were forwarded to Abt Associates, along with examples of forms, as follows:

- Project code numbers and how they were generated;
- Explanation of color-coded files, as well as site code numbers;
- Procedures upon receipt of instruments, such as:
 - Checking for completeness and legibility
 - One copy of FWL's acknowledgment memo

- One copy of log-in sheet
- Information on photocopying original instruments for working copies
- One copy of instrument totals form
- Coding Manual
- Data format sheets
- Magnetic tape for generating data, complete with instructions

CONCLUSIONS AND RECOMMENDATIONS

This study provides a wealth of data, both qualitative and quantitative, on the site and linking agent activities directed toward problem solution through R&D Utilization and the site conditions with potential influence on those activities and their outcomes. Comparisons of the perceptions of antecedent conditions and comparisons of ensuing activities have revealed many differences, as well as considerable similarities, between projects, between types of respondents, between individual respondents within projects, and between the different phases of problem solution. Some information on relationships between conditions and strategies and on outcomes of the R&DU process has also been derived from this study; however, continuation of T2 and later follow-up data collection and analysis should provide considerably more information relevant to these areas:

FWL recommendations include the following:

- On the T1 and T2 questionnaires, respondents are asked to indicate what has been done on the project to address the problem. Most responses indicated resources or curriculum changes regardless of the problem. PRs tend to list a variety of programs while other site interviewees were more skeptical and often said "nothing." This might be worth looking at during the "clinical" study of site forms and might be useful to incorporate in further instrumentation.
- Further emphasis should be placed on project deliverables such as Problem Identification Reports (PIDs), Decision Making/Solution Selection Reports (DSSs), and Implementation Reports (IRs), in addition to Monthly Project Reports (MRPs). However, the PID, DSS, and IR should be reformatted or redesigned. (E.g., if items 4 and 5 [involvement and process] were combined on the PIDs, as shown on the attached sample, it might be possible to relate this analysis to the transaction log sections, such as level of effort.)

SAMPLE

SAMPLE

CHRONOLOGICAL PROCESS OF EVENTS AND PERSONS INVOLVED

DATE	DESCRIPTION OF EVENTS	NUMBER OF PERSONS INVOLVED AND THEIR ROLES	IDENTIFY PERSON(S) (e.g., LEA, project- related, external)	TIME SPENT FOR EACH EFFORT	PROBLEM-SOLVING TRAINING AND/OR OTHER MANAGEMENT TOOLS

- It is obvious that there is little information on linking agents. It would be wise to design a linking agent questionnaire and follow up with some field interviewing.
- More emphasis should be placed on case studies in relation to the overall study design.
- Quantitative analyses of data are informative and important, but should focus on a "clinical" approach with particular emphasis on case studies.
- If the questionnaire is considerably condensed, making it much less open-ended, it is suggested that the first two questions about the problem and cause be left open-ended before following up with choose-the-category questions.
- There are problems with the barriers scale--it is by no means linear, responses of "no barrier" and "unimportant barrier" could reflect different interpretations of the scale label rather than differences in perceptions of the barriers. For this reason, analyses of the responses are more meaningful if one combines ratings 1, 2, and 3 ("no barrier," "resolved," and "unimportant") into one category to be contrasted with "locally resolvable" (4), "need help" (5), and "intractable" (6). Keeping this in mind, we feel the barriers are an easy way to gather data about perceptions of conditions.
- There was some disappointment in the quality of the data, partially because of the seemingly simplistic responses which indicated that little thought was given to them, and partially because of the difficulty in coding these responses. The tabulations or codings provided a rough idea of perceptions; a more clinical analysis probably is needed as a supplemental method to characterize the sites more accurately.
- Transaction logs are extremely valuable and a rich source of information about tactics.

A P P E N D I C E S

- A. Synoptic Comparison of the Seven R&D Utilization Projects
Based on an Analysis of the Project Proposals
- B. T1 and T2 Questionnaires
Commentary, Instructions and Examples
Transaction Log and Instructions
- C. Additional Tables for Final Data Analysis
- D. Content Analysis of 78 Problem Identification Reports
Representing All Seven Projects

APPENDIX A

Synoptic Comparison of the

Seven R&D Utilization Projects

Based on an Analysis of the Project Proposals

SYNOPTIC COMPARISON OF THE SEVEN R&D UTILIZATION PROJECTS
BASED ON AN ANALYSIS OF THE PROJECT PROPOSALS

Paul D. Hood

June 1977



FAR WEST LABORATORY
FOR EDUCATIONAL RESEARCH AND DEVELOPMENT

SYNOPTIC COMPARISON OF THE SEVEN R&D UTILIZATION PROJECTS
BASED ON AN ANALYSIS OF THE PROJECT PROPOSALS

There are many significant commonalities among the seven projects which are a result of the design of the NIE R&DU Program and the general specifications which were contained in the original Program Request for Proposals.

Specifically, NIE sought proposals which would

- attempt to increase knowledge and utilization of R&D outcomes as part of the solution to locally defined problems,
- attempt to orchestrate a much fuller range of change support services than had characterized previous R&D dissemination efforts,
- attempt to create arrangements among a variety of existing agencies.

The Program RFP specified that proposals make explicit provision of assistance in:

- delivering technical assistance to local schools through the use of "linking" staff,
- identifying specific educational problems at each school site,
- developing and using information on available R&D-based outcomes (products, programs, practices),
- selecting and adopting specific R&D outcomes based on locally developed criteria and needs, and
- implementing the selected R&D-based programs at the local site.

The RFP also contained specific requirements for establishment of a management information system, documentation, evaluation, and reporting. Awarded projects submitted proposals that were responsive to these general specifications. Consequently, there are many ways in which the seven R&D

Utilization Projects are similar to each other (and also remarkably different from virtually all other federally-sponsored educational dissemination efforts). However, the RFP deliberately provided for a diversity of approaches (by inviting proposals that involved various intrastate and interstate organizational arrangements; addressed different subject matter emphases in basic skills and career education; and employed different strategies, tactics, and linkage arrangements among organizations).

The following sections attempt to provide a comparative overview of the projects with special emphasis on distinguishing features and characteristics. It is important to note that this analysis is based on information contained in the proposals, in the R&D Utilization abstracts, or in the Evaluation Study RFP, and thus represents only our interpretation of what each project proposed. It thus provides only a point of departure for approaching the task of learning about R&D Utilization Projects' objectives, organization, and status. But more significantly, it permits us to develop and present our plan for conducting the proposed study of the R&D Utilization Program with a moderately detailed conception of the organization of each of the projects.

Comparison of the R&D Utilization Projects. Examination of the seven R&D Utilization projects reveals that each is distinctly different in the way it is organized and operated. However, there are some gross similarities. All of the projects are multi-level, interorganizational arrangements. Three levels of activity can be found in all projects: (1) project management and specialized project support functions (e.g., knowledge synthesis, training, evaluation), (2) intermediate agencies which perform most or all of the "linking functions," and (3) sites (schools or groupings of school staff within a local educational agency).

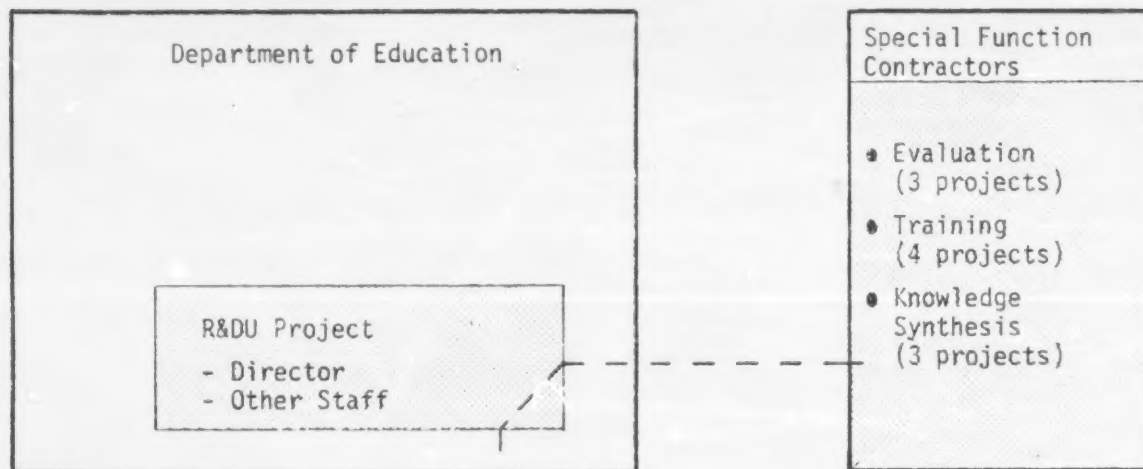
The Single-State Projects. The four single-state projects (Georgia, Florida, Michigan, and Pennsylvania) share a number of common features. In each project, the Department of Education (DOE) is the prime contractor, the project management is located in the DOE, one or more specialized functions (e.g., knowledge synthesis, training, or evaluation) are subcontracted to universities or non-profit agencies, formal agreements exist with intermediate agencies that assume primary responsibilities for many or all linkage functions, and formal agreements are made with volunteer school districts which meet the projects' selection criteria. In each state, the overall project strategy has emerged from previous educational dissemination or change support efforts and has been designed to take advantage of various legislative mandates and department of education/state board priorities that can potentially create a significant incentive context for R&DU project activities. Moreover, all four state projects have explicit commitment to "R&D utilization capacity building" within the state. Each project has specific objectives with respect to modifying or strengthening the roles and relationships of the department of education, the intermediate units, and other education-related agencies or associations in the state in order to provide more effective improvement-oriented change services to local educational agencies. In all four states, these project objectives are identified as instrumental to the accomplishment of major state educational goals. In addition to the accomplishments of major state educational goals, all four state projects are engaged in developing, testing, and refining their interorganizational relationship models with the specific intent of extending their scope to include, eventually, service to schools throughout the state.

Although an over-simplification, the structure of the four state projects may be depicted as shown in the figure and chart on the following pages.

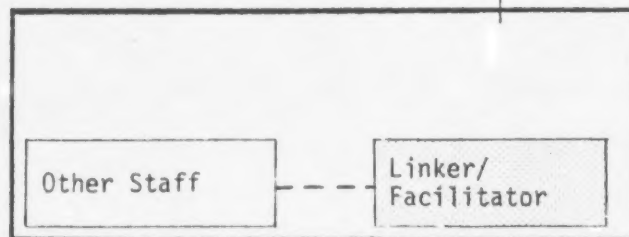
Figure

General Organizational Structure of
Single State R&D Utilization Projects

STATE LEVEL



INTERMEDIATE LEVEL



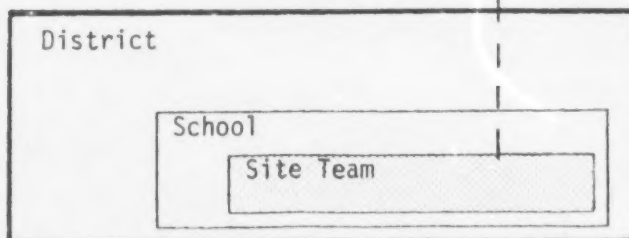
GA: 3 CESA's

FL: 6/9 Teacher Centers, 8 County Offices

MI: 50 Career Education Planning Districts

PA: 2 Intermediate Units

LOCAL EDUCATIONAL AGENCY LEVEL



GA: 18/20 LEAs

FL: 16 LEAs

MI: 50 LEAs

PA: 8/10 LEAs

#First Year/#Second Year

SINGLE-STATE R&D UTILIZATION PROJECTS

GEORGIA	FLORIDA	MICHIGAN	PENNSYLVANIA
<u>DISTINCTIVE THEME</u>			
Create a permanent state network able to generate inner-directed change in LEAs. Includes concerted effort to re-orient and train consultant specialists in Department of Education and in Cooperative Education Service Agencies (CESAs) as problem-solving "generalists."	Create infrastructure (legislative, inter-organizational, technical) to support combined effort by Department of Education, State University, and Teacher Centers to assist schools.	Develop statewide capacity to implement Michigan Public Law 97, "Career Education Act." Builds on state network of 50 Career Education Planning Districts to channel information and assistance to local districts.	Pilot test organizational arrangements and processes for providing knowledge and technical assistance to help schools achieve Pennsylvania Education Quality Assessment (EQA) goals. Builds on 15-year EQA program.
<u>MACRO-SOCIOPOLITICAL FORCES</u>			
State of Georgia is in major socioeconomic transition. Education is seen as a key element in upgrading states' work force. Basic skills and career education are both important. The Department of Education and CESA leadership are committed to improving their capacity to assist schools. In 1975, the State Board of Education	Several recent legislative mandates combine to provide significant impetus for change. These include: Early Childhood Legislation, School Budgeting, Florida Assessment Program, and Teacher Education Centers. In addition, state universities are under legislative pressure to provide community service or reduce budgets.	Each of Michigan's 538 local school districts has the legal responsibility (PL 97) to establish a local Career Education Council and to plan for a comprehensive career education program. For many districts, the magnitude of the new task is so overwhelming that real compliance will be achieved only if effective assistance is	Following a 10-year period of development and trial, the Pennsylvania EQA Program was mandated for all schools in 1973. In 1975, the State Board of Education required each district to undertake long-range planning that would result in detailed plans regarding the steps that the district would take to improve its educational program.

GEORGIA	FLORIDA	MICHIGAN	PENNSYLVANIA
Macro-Sociopolitical Forces (continued)			
passed Standard 23 pertaining to improvement in reading and math as assessed by Georgia's statewide testing program.	In 1975, Florida legislation directed the Department of Education to restructure early childhood education (ECE) in Florida.	provided to the districts through the Department of Education and the Career Education Planning Districts. Each district is also required to evaluate its career education program and make recommendations following State Board Guidelines.	Districts are required to examine EQA data, decide which areas need improvement, and prepare plans.

SUBJECT MATTER FOCUS			
Basic skills and career education. Basic skills (defined in Georgia as reading and math) are a concern throughout elementary and secondary grades with special focus on meeting Standard 23. The Georgia Department of Education and the legislature see basic skills and career education as interrelated priority areas. Georgia's conception of career education is similar to Michigan's.	Basic skills. Emphasis is primarily on improvement of basic reading and language arts skills, of students from kindergarten through grade six. However, ECE legislation defines basic skills as including, but not limited to, reading, writing, language arts, arithmetic, measurement, and problem solving.	Career education--includes emphases on knowledge, skills, and attitudes needed to explore, understand, and perform in life roles. As such, career education embraces all elements of education and includes two broad processes: career development (awareness, exploration, decision making, planning) and career preparation.	Basic skills, particularly reading and mathematics, in elementary and middle school grades. EQA program gives each school and school district information that enables them to compare their performance with schools that have similar student populations and similar resources. Target schools were identified, in part, on the basis of severe problems indicated in EQA math and verbal areas.

(continued)

GEORGIA

FLORIDA

MICHIGAN

PENNSYLVANIA

ORGANIZATION

Provides for development of interlocking relationships between DOE, CESAs, LEAs, and sites. The proposal identifies specific and inter-related objectives for DOE, CESAs, and LEAs in the following areas: management, staff functions, staff competencies and their development, intra- and interorganizational linkages, communications and relationships, and agency commitments and in-kind contributions. Project objective is to have piloted a "network" model that can be used by DOE to set direction for permanent and widespread change through eventual involvement of most or all Georgia CESAs. Contract support (evaluation) is provided by the University of Georgia.

Several types of educational agencies will be directly involved in implementing the Florida Linkage System: the Florida DOE, five teacher education centers (TECs), sixteen LEAs, the Florida State University (FSU), the University of Florida (UF), and other Florida institutions of higher education (IHEs). TECs currently coordinate inservice needs of teachers with resources of IHEs. Florida project would expand role of TECs to encompass all major delivery aspects of Florida Linkage System (FLS) process model and would significantly expand and coordinate SUS/DOE capacity to provide linkage resources (e.g., knowledge synthesis; training) to LEAs through TECs. Organizational relationships are expected to evolve

Intends to strengthen existing career education (CE) planning structure outlined by PL97 by developing statewide system for delivery of specialized services to LEAs through existing career education planning districts (CEDPs). Michigan project is remarkable because it offers an array of DOE-managed R&DU services and resources to all 50 Michigan CEPDs, from project inception. Each participating CEPD is to work initially with one LEA site. Plan calls for establishment of formal relationships between DOE and CEPDs, and also between CEPDs and sites. Sites are to form teams led by district CE coordinator and composed of LEA staff and community representatives. Site team in turn is expected to be "second level" disseminator of assistance

The Pennsylvania School Improvement Program builds directly on EQA effort and capitalizes on existing organizational relationships between the Department, Intermediate Units (IUs), and three experienced R&D agencies: Research and Information Services for Education (RISE), Learning Research and Development Center (LRDC), and Research for Better Schools (RBS) to provide R&D services through two IUs to ten schools. The project staff is organized into three teams: (1) Management, (2) R&D Resources, (3) School Assistance (SAT). Each school will organize a Local Action Team (LAT) consisting of school staff, students, parents, and community members. The LAT, in turn, serves as a catalyst for local improvement efforts.

GEORGIA	FLORIDA	MICHIGAN	PENNSYLVANIA
Organization (continued)			
	over time, are guided by FLS process model requirements, and are reviewed by advisory panels.	of other LEA staff and community members.	

DISTINCTIVE STRATEGIES AND TACTICS

- Interlocking management by objectives (MBO).
- Quarterly work plans jointly developed by DOE, CESA, and LEAs.
- Staff development with individualized program planning based on specific competency objectives.
- Formative evaluation with provision for feedback to and broad participation among project participants.
- Emphasis on extensive and frequent interpersonal communication with participants and other interested Georgia educators
- Florida Linkage Systems (FLS) represents the overarching process strategy. Developed as an outgrowth of several previous dissemination projects, FLS is a detailed and well documented conception of a highly rational and systematic problem solving process. It involves five major subsystems: Problem Discovery, Linkage Resource Processing, Research and Development, and Solution Installation.
- TECs, in cooperation with LEA facilitators, assist sites as they move through this systematic change process.
- Michigan plan identifies eight distinct and progressive site problem solving/implementation phases, but explicitly assumes that schools may take different paths in terms of the sequence and duration of phases. Also, deliberately allows for entry of schools that may already be more advanced than first phase.
- Also identifies eight specific technical services and employs a phase/service matrix as a management tool for organizing and sequencing technical services and information
- The project draws on experience of LRDC and RBS in implementing IPI and other R&D-based programs in schools, and also on the research-based and field tested general change assistance procedures, training materials, and aids developed by both LRDC and RBS.
- RISE has developed an array of practitioner-oriented information resources and has developed methods for achieving their effective delivery and utilization.
- Three specialized linkage teams (R&D Resource, School

(Continued)

GEORGIA	FLORIDA	MICHIGAN	PENNSYLVANIA
Distinctive Strategies and Tactics (continued)			
through telephone, site visits, public meetings. ● Assistance efforts keyed to five identified phases: (1) assessment, (2) readiness, (3) planning, (4) implementation, and (5) evaluation/modification. ● Joint planning.	● FLS stipulates need for a support system which is to be developed over time by the network of TECs, IHEs, and DOE. ● Organizational relationships among TECs, IHEs, and DOE are seen as collaborative and emergent. ● However, specialized support functions (evaluation, diffusion and training, solution analysis) are provided through more explicit subcontract arrangement. ● A policy advisory council and three specialized review panels provide for participation and involvement of state educators and national experts.	in relation to site phase path and for allocating resources contingent on phase to which site has advanced. ● Overall objective of departmental project staff, CEPD, and site career education coordinators will be to assist a site team composed of LEA coordinator, other LEA staff, and community representatives to define needs, develop approaches, examine materials, etc. ● Plan includes detailed projections of levels of effort and duration of site phases based on several related Michigan educational services programs.	Assistance, and Local Action) are designed to perform complementary and interactive functions. Each team is composed of members who are familiar with the resources of their agency. ● Technical services are organized in terms of a sequence of thirteen defined problem solving and implementation activities organized in four major site phases: problem definition and group problem solving, identification and awareness of R&D knowledge base, selection of R&D outcomes, and installation of R&D outcomes.

OTHER SPECIAL FEATURES

- | | | | |
|--|---|--|---|
| <ul style="list-style-type: none"> ● Coordinated DOE/CESA consultant role change strategy (specialists to problem solving generalists). | <ul style="list-style-type: none"> ● Project may provide a basis for broader planning, collaboration, and communication between DOE, IHEs, and | <ul style="list-style-type: none"> ● CEPD coordinators to act as brokers between sites and statewide resources. Eight Michigan universities | <ul style="list-style-type: none"> ● Involves DOE Bureau of Information Services together with Division of Educational Quality Assessment. |
|--|---|--|---|

GEORGIA	FLORIDA	MICHIGAN	PENNSYLVANIA
Other Special Features (continued)			
● Provision for explicit definition of "linkage" competencies and for development of an individualized training support capability. ● DOE management team concept and "inter-locking management" between educational agency levels (state, intermediate, local). ● Explicit provision for involving and training staff of additional CESAs.	TECs regarding their respective roles and relationships in assisting Florida schools. ● Florida DOE Office of Dissemination and Diffusion (ODD) manages R&DU and State Capacity Building Projects.	have joined in a C.E. consortium to provide trained staff to LEAs that wish to receive specific services. ● Deliberate selection of some sites already beyond first phases and large number of sites (approximately 50) provides for a relatively complex demand for services from project inception. It may tax project service delivery, but may also accelerate system development.	● Heavy emphasis on small scale piloting (just two Intermediate Units and ten target schools) enables the combined project resources of DOE, LRDC, RISE, RBS, and IUs to be concentrated on a few sites. ● Site activities in many phases supported by previously developed "Administering for Change" training materials and instruments.

KNOWLEDGE CONSOLIDATION

An R&D Dissemination Center will produce and disseminate information syntheses in reading, mathematics, and career education. Two-page Project Information Packages will be prepared for each major product in the R&D resource file.	Function is performed within ODD. Subcontractor will be responsible for: screening locally identified problems, searching out solutions, developing strategies, and responding to LEA problems. Brief synopses of selected	Experts in dissemination to assist in the development of analysis framework and format requirements. Subcontractor will convert knowledge base into user decision-oriented materials, following the framework and format requirements. A task	Performed by R&D Resource Team consisting of staff from LRDC and RISE and assisted by RBS, the Department, and two Intermediate Units. An R&D Information Bank focusing on basic skills will be established. Conference of teachers, administrators,
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GEORGIA	FLORIDA	MICHIGAN	PENNSYLVANIA
Knowledge Consolidation (continued)			
Project will develop a document on how to select an R&D product, and produce supplementary product orientation materials.	R&D outcomes will be developed and disseminated. Technical analyses will be developed and experts will be made available to interpret outcomes in the light of local conditions. An expert panel provides general advice and review.	force of C.E. coordinators and other site representatives, in concert with subcontractor, will establish priorities. Knowledge base consolidation cycles will be repeated.	curriculum designers, and researchers used to review bank holdings and to advise on format and dissemination.

EVALUATION

Evaluation plan calls for an evaluation subcontractor, but also provides for much built-in evaluation. Evaluation plan is an adaptation of several models (Provus, Stake, Stuffelbeam) and is designed to provide formative management information compatible with the inner-directed emerging character of the Georgia R&DU program. Proposal contains detailed specification of objectives, processes and

FLS makes explicit provisions for documentation and formative evaluation. Plan calls for (1) broad participation, (2) substantial decentralization, (3) opportunity for IHE faculty participation, and (4) assignment of specialized tasks to contract agencies. The basic organization elements are Associate Director for Management and Evaluation, an Evaluation Review Panel, specific subcontracts for specialized tasks, and

PL97 requires every LEA to evaluate its efforts in career education against its own performance objectives, the objectives set in the CEPD plan and the state's Guidelines; evaluation of these objectives will be an integral component of the sites' total evaluation. Project evaluation functions are to be performed by a subcontractor with provision for turnkey to state. Formative and summative evaluation of effectiveness of services and of

Performed by Department staff as integral part of management function, but with subcontractor support. Three categories of activities are specified: (1) progress evaluation to provide management information, (2) impact evaluation to provide information on the effects of the program, and (3) research support to ensure access for the R&DU Program Study Contractor. Progress evaluation is accomplished through a monitoring system keyed to observable

GEORGIA	FLORIDA	MICHIGAN	PENNSYLVANIA
Evaluation (continued)			
products, questions, procedures/kinds of data, and evaluation products. Explicit provision is made for quarterly and annual review of evaluation findings by DOE/CESA/LEA participants.	agreements with participating agencies which define requirements for documentation.	of site activities will be keyed to sites' progress through problem solving/implementation phases.	indicators of site progress. Impact evaluation extends to analysis of student effects as reflected in EQA results and site-specific instruments.

The Multi-state Projects. Each of the three multi-state projects (National Education Association, the Network Consortium, and the Northwest Reading Consortium) is distinctly different from the others and from the four single-state projects. The prime contacts are with a department of education (Northwest Reading Consortium), an educational association (NEA), and a non-profit firm (the NETWORK). Although the multi-state projects also tend to subcontract for some special functions, they generally tend to centralize significantly larger portions of project support operations (e.g., information services, training, evaluation) at project headquarters. However, again there are major differences among the three multi-state projects. The NETWORK appears to be most centralized and self-sufficient, NEA is intermediate, and the Northwest Reading Consortium (the one DOE prime contractor) is closest to its single-state project cousins in its tendency to subcontract for all or part of its information, training, and evaluation support functions.

Whereas the R&DU project antecedents for the four single-state projects are rooted in previous state dissemination and technical assistance efforts and are motivated by state department priorities and state legislative mandates, the multi-state projects tend to find their programmatic roots and relationships in pre-existing nationwide "programs" (i.e., Right to Read, NEA's Instruction and Professional Development, and the National Diffusion Network). It was through these program networks of personal relationships that multi-state partners were recruited and enlisted. The three multi-state projects also involve intermediate agencies housing linkers/facilitators; however, the formal relationships with these intermediate agencies tend to be more R&DU project-specific, both in terms of scope and historical perspective. Generally, intermediate agencies/persons in the multi-state projects were selected on the basis of previous relationships with persons within the selected linking

organizations who were known to have interests and capacity to perform specified linking functions. Consequently, the relationship between the multi-state project headquarters and the linking agencies, although established informally, tends to be primarily on a personal rather than on an organizational basis. While the single-state projects are concerned with piloting organizational systems which must cope with the intra- and interorganizational realities of several levels of educational bureaucracies within a state, the multi-state projects confront the special problems of maintaining extremely dispersed organizations that depend primarily on the skills and motivations of persons who must work far more independently. Because of greater geographical distances and looser organizational ties, the multi-state projects all have placed substantial emphasis on recruitment and socialization of linkers who will be committed to the project's general strategy on development and communication of the project's change rationale and on providing support to individuals who are rarely in direct contact with each other. Development of easily communicable assistance strategies and flexible systems of guides and materials to aid in the problem analysis and R&D outcome selection and implementation processes also tend to be especially significant concerns for the multi-state projects because they help to overcome the problems of dispersion.

MULTI-STATE R&D UTILIZATION PROJECTS

NATIONAL EDUCATION ASSOCIATION

NORTHWEST READING CONSORTIUM

THE NETWORK CONSORTIUM

DISTINCTIVE THEME

The fundamental premise of the NEA proposal is that improving teaching strategies and effecting desirable change in the teaching/learning situation will contribute to the amelioration of educational problems in the basic skills. The project builds on existing national, state, and local linkages to support dissemination of R&D outcomes and to strengthen instructional and professional development activities.

Builds on the existing national Right to Read (R2R) program and is seen as providing for significant refinement of the R2R change strategy. Also takes advantage of ongoing Northwest regional activities with explicit intent to improve interstate and intrastate communication and dissemination capacity.

Builds on the established expertise and dissemination capability of the NETWORK of Innovative Schools and the National Diffusion Network to pilot test an interstate multi-agency consortium. The Consortium is deliberately designed to serve and study schools in many different locations and to develop and evaluate procedures for project management and implementation that cope with extreme geographic dispersion of the linking agencies.

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MACRO-SOCIOPOLITICAL FORCES

Impetus for the project comes from long-term NEA commitment to fostering instructional and professional development in the nation's schools. The project provides an opportunity for NEA to exercise leadership with potential impact at national, state, and local levels. At the state level, there is the opportunity to communicate IPD needs and to demonstrate

Responds to the same national problems that gave impetus to R2R: low reading achievement of significant numbers of students in schools throughout the country. The four states participating in the Consortium (Alaska, Idaho, Oregon, and Washington) have all officially designated reading as an area of priority need and are all participants in the national

The NETWORK has pioneered in fostering educational innovation and in providing change support services to schools in the New England area for nearly a decade, and it is currently involved in two major dissemination projects of national scope: the National Learning Disabilities Assistance Project and the National Diffusion Network (NDN). Although NDN is currently focused on dissemination

(continued)

NATIONAL EDUCATION ASSOCIATION

NORTHWEST READING CONSORTIUM

THE NETWORK CONSORTIUM

Macro-Sociopolitical Forces (continued)

impact to national policymakers, federal program managers, and R&D agencies. At the state level, there is the opportunity to increase cooperation between NEA state association and SEA staffs concerned with professional development, and to work jointly to organize state and national resources to better serve LEA needs. At the local level, there is opportunity to strengthen IPD programs.

R2R effort. The Northwest Regional Educational Laboratory (NWREL) and several programs (e.g., adult education, manpower) have established a basis for cooperative regional efforts. The Consortium is an outgrowth of informal communication and cooperation among R2R leaders who agreed that there no longer existed public tolerance, finances, nor professional time for each state to work alone.

of JDRP-approved exemplary projects, the NETWORK recognized that key persons and agencies who were successful in NDN had the potential to expand the array of R&D-based resources and services they were brokering to schools. Individual and agency commitments to school service and to use of rational change strategies for improving education are important motivations for the several Consortium participants.

SUBJECT MATTER FOCUS

NEA project will focus on problems in the teaching-learning situation identified by local users as critical causes of lack of success in the basic skills. It will emphasize teaching strategies, supporting the application of those R&D outcomes with potential for resolving such problems as poor student motivation, inadequate diagnosis of learning needs, and difficulties in assessing student progress.

Reading instruction. LEAs were selected on the basis of their participation in R2R and evidenced commitment to improved reading instruction. Improvement in instruction focuses on: effective program organization, appropriate use of management systems, instructional techniques, how and what students need as they are learning reading comprehension, and implementation processes for installing and adapting new systems.

The Consortium concentrates on two broad areas: (1) basic skills (reading), and (2) the change process itself. In both areas that project has prescreened many candidate R&D outcomes and has created highly selected initial pools that will match anticipated priority needs of sites and the Consortium's specialized dissemination strategies and capabilities.

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NATIONAL EDUCATION ASSOCIATION

NORTHWEST READING CONSORTIUM

THE NETWORK CONSORTIUM

ORGANIZATION

Consists of a consortium of twelve NEA state education associations, the corresponding state departments of education (SEAs), the Educational Products Information Exchange (EPIE), and the Far West Laboratory (FWL), and is led by the National Education Association (NEA). Project staff, located at NEA headquarters and part of Instructional and Professional Development (IPD) programs, perform management, coordination, evaluation, and knowledge consolidation/information service functions. State facilitator teams, consisting of one state NEA staff member and one SEA staff member, both specialists in inservice teacher training, work jointly to provide on-site assistance to target schools in each state. LEA activities are accomplished through local IPD committees. EPIE and FWL will work with project staff to develop training assistance. Participants will have direct access to project information resources through toll-free telephone.

Washington SEA is the prime contractor. Consortium direction and evaluation is accomplished by small staff in Washington SEA. A coordinator is located in a selected intermediate service agency (ISA) in each state. Each coordinator serves two (eventually three) LEAs and works with several schools in each LEA with an R2R coordinator and an advisory committee. NWREL subcontract coordinates knowledge consolidation and other services to LEAs. Three different bodies provide multi-state governance structure. State assemblies are to be conducted twice yearly to share information about project and to identify state resources. A Consortium Assembly meets annually to recommend project guidelines and policies and select an Executive Committee, which meets quarterly and is responsible for project policy.

The Consortium is composed of target schools in four LEAs in each of six states: California, Connecticut, Kansas, Massachusetts, Minnesota, and Washington; a linking agency in each state; the NETWORK, and an Advisory Board. The NETWORK performs leadership, coordination, training, knowledge consolidation, and evaluation functions, with Advisory Board input on policy and operational issues. Each of the six linking agencies provides all direct services to target schools in its state.

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NATIONAL EDUCATION ASSOCIATION

NORTHWEST READING CONSORTIUM

THE NETWORK CONSORTIUM

DISTINCTIVE STRATEGIES AND TACTICS

- In contrast to other R&DU projects, the NEA project places greatest emphasis on dissemination of improved teaching strategies through inservice training.
- Approach is predicated on three reasons: (1) experience that curricular packages alone do not affect long-term improvement in student learning, (2) results of recent studies that suggest teaching/learning strategies rather than content specifics may be the critical elements in instruction in the basic skills, and (3) surveys of teachers indicate that they report specific needs for assistance through in-service training in basic teaching strategies applicable across content areas.
- Draws on combined NEA/FWL/EPIE experience in designing user-oriented information resources.
- Builds on existing national, state, and local IPD structures and attempts to articulate NEA activity at each level with comparable educational agency activity.
- Is the only R&DU project that has adopted a distinctly regional approach. Relationships and processes established during the project are expected to continue beyond the life of the project and to be applicable in areas of education other than reading.
- Decisionmaking, as well as impetus for problem identification, selection, and implementation, is centered in the local district, but is assisted by an elaboration of the already developed R2R model.
- Identification and provision of R&D outputs, services, and other resources in response to local needs will originate at state and regional levels and be delivered through intermediate units to the local districts.
- "Matching" of locally identified needs and state/regional available resources will be coordinated through a selected intermediate service agency (ISA) in each state. By capitalizing on the existing school service role of ISAs, the process will be "institutionalized" to continue beyond the life of the project.
- Basic strategy is derived from common experience of all participants in National Diffusion Network operations; however, the primary emphasis is shifted from NDN brokering and securing many "adoptions" to providing more intensive assistance to a small number of schools in problem identification, group problem solving, and R&D outcome selection and implementation.
- Focus is on use of three different kinds of R&D programs, each addressed to a different type of change objective:
 - (1) reading programs developed for adoption in local schools,
 - (2) techniques which have been developed for systematic diagnosis of school (organizational) needs and problems, and (3) products and processes which will assist in the training and support of key linking agents.
- Strategy also includes explicit commitment to formative evaluation, study, and documentation of process and outcomes at all three levels.

NATIONAL EDUCATION ASSOCIATION

NORTHWEST READING CONSORTIUM

THE NETWORK CONSORTIUM

OTHER SPECIAL FEATURES

- Special emphasis on development of and providing nationwide access to an inservice training information base representing high quality and user critiqued resources.
 - Involves significantly more states (12) than any other project. To reduce start-up problems, six Eastern states are involved in the first year and six Western states are to be added in second year.
 - Employs established NEA's network for reaching teachers, expands it within each state to include SEA staff, focuses work on pilot efforts to assist target LEAs.
 - Demonstrates a model dissemination system utilizing regular channels of communication at two levels: interstate and intrastate.
 - Project tends to strengthen and increase the exchange of information and resources among the four states in reading.
 - At intrastate level, project involves four different applications of general model of use of ISA. Character and maturation of ISAs are vastly different across the four states.
 - Use of national R2R structure and resources and R&D-based R2R process model provides potential for nationwide replication.
 - Consortium was designed to involve many types of agencies: university, local school district, LEA/SEA cooperatives, intermediate service agencies, and nonprofit corporations.
 - Special emphases on documentation and research.
 - Multi-dimensional scaling procedures to assess school personnel attitudes will be used to assist linkers in communication with sites and for evaluation of project impact.
 - All participants are engaged in other educational dissemination efforts which may enrich Consortium experience base and enable members to apply Consortium experience to other educational dissemination efforts.
 - Consortium places special emphasis on fostering "network" communication and peer support among participants.
-

NATIONAL EDUCATION ASSOCIATION

NORTHWEST READING CONSORTIUM

THE NETWORK CONSORTIUM

KNOWLEDGE CONSOLIDATION

An NEA/FWL Pilot Study provides the basis for the development of the proposed NEA information system, which incorporates a collection of multi-level mailable descriptions of in-service training resources and the services of information specialists accessible through a toll-free telephone. Two special "user-based" characteristics are: the information descriptions reflect user requirements for decisionmaking as established through the pilot study; and descriptions will be revised to incorporate user critiques of effectiveness.

NWREL will gather information about R&D outcomes, services, and other resources available to LEAs in general areas of problem definition; group problem solving; planning; and selection, installation, and evaluation of R&D outcomes. A number of specified sources are to be searched and then screened. Information output will be prepared at several levels, including: an output listing with descriptors, executive summaries, support materials for selection and installation, and a theoretical base when appropriate.

As a consequence of previous dissemination efforts, the NETWORK has already developed substantial experience in developing and delivering information needed by schools engaged in planned change efforts. By focusing on a relatively small number of validated programs and products, the knowledge consolidation effort can be focused on development of knowledge resources attending more fully to information needs and concerns of adopters as they progress through decisionmaking, planning, and implementation phases.

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EVALUATION

Accomplished by NEA evaluator. Plan outlines three general activities: (1) project management information system, (2) evaluation of progress toward four major project objectives (criteria and methods specified), and (3) project support for R&D Study contractor.

Will focus on three facets: (1) local process of R&D utilization, (2) site specific impact (keyed to the effects of installation of R&D outcomes in reading on target students), and (3) a study of linkage (a comparison of different ways linkers in the four states carry out the same role). Work to be performed by Washington SEA evaluator with subcontract assistance.

Performed by the NETWORK. The Evaluation Plan addresses issues in four areas: (1) the role and function of linking agencies, (2) characteristics of effective outcomes of R&D efforts, (3) characteristics of adopters, and (4) the nature of the dissemination/diffusion process.

APPENDIX B

T1 and T2 Questionnaires

Commentary, Instructions and Examples

Transaction Log and Instructions

SURVEY OF R&D UTILIZATION IN LOCAL SCHOOLS

(T1: PROJECT INITIATION)

SITE CODE: _____

NAME OF RESPONDENT: _____

MAILING ADDRESS: _____

TELEPHONE NUMBER: ()
Area Number Extension

TITLE OR ROLE IN THE
DISTRICT OR SCHOOL: _____

DATE SUBMITTED: _____

R&DUE
12/21/76

R&DUE
12/21/76

1
SITE CODE: _____

SURVEY OF R&D UTILIZATION IN LOCAL SCHOOLS

(T1: PROJECT INITIATION)

Discussions have been held between you and (name of individual or project name) to examine possible services that might be useful to help you improve your project. In order to understand better how (project name) can be of help, we would like your answer to several questions. Please answer in your own words as thoughtfully but briefly as possible.

I. THE PROBLEM

1. What is the problem that you are facing?

2. What do you think the cause of this problem is?

3. Who is most affected by the problem?
4. How was the problem identified, and by whom?
5. What evidence is there that the problem exists?
6. How long has the problem existed?
7. What would you accept as evidence that the problem has been solved or reduced?

III. PROBLEM SOLVING ACTIVITIES

1. Given the problem you have identified, what barriers do you see to successfully dealing with the problem? To answer the question, we ask that you respond to a list of possible barriers. For each item below, select one of five possible answers.

- "NO BARRIER"..... (I.e., as far as you know, the item represents no barrier to your success.)
- "UNIMPORTANT"..... (I.e., the item may represent a barrier, but it is not an important one and can easily be overcome.)
- "LOCALLY RESOLVABLE"..... (I.e., the item represents an important barrier, but you believe the school or project site personnel can resolve it themselves.)
- "NEED HELP"..... (I.e., the item represents an important barrier, but you would need external help to resolve it.)
- "INTRACTABLE"..... (I.e., the statement is an important barrier to your success, and even with outside help you're skeptical about the likelihood of being able to overcome it.)

Place a check in the appropriate column beside each item:

- | | NO BARRIER | UNIMPORTANT | LOCALLY
RESOLVABLE | NEED HELP | INTRACTABLE | |
|--|------------|-------------|-----------------------|-----------|-------------|-----|
| (1) Getting new data about the nature of the problem..... | [] | [] | [] | [] | [] | (1) |
| (2) Defining more precisely the causes of the problem..... | [] | [] | [] | [] | [] | (2) |
| (3) Restating your goals, objectives and criteria for selecting a new course of action..... | [] | [] | [] | [] | [] | (3) |
| (4) Articulating your view of the problem with the relevant literature, research, or known practice..... | [] | [] | [] | [] | [] | (4) |
| (5) Identifying what you are already doing to resolve the problem..... | [] | [] | [] | [] | [] | (5) |
| (6) Improving your group planning, decision-making, and general problem-solving skills.... | [] | [] | [] | [] | [] | (6) |

	NO BARRIER	UNIMPORTANT	LOCALLY RESOLVABLE	NEED HELP	INTRACTABLE	
(7) Developing a procedure for involving more people in the problem-solving/decision-making process.....	[]	[]	[]	[]	[]	(7)
(8) Developing a good plan to carry you through the problem-solving process.....	[]	[]	[]	[]	[]	(8)
(9) Setting up a good monitoring, evaluation, and feedback system.....	[]	[]	[]	[]	[]	(9)
(10) Securing more community and staff agreement and support for what needs to be done.....	[]	[]	[]	[]	[]	(10)
(11) Finding out about the nature and range of innovations that might be available to help solve your problem.....	[]	[]	[]	[]	[]	(11)
(12) Getting indepth information about just a few innovations that might help solve your problem.....	[]	[]	[]	[]	[]	(12)
(13) Visiting or talking to others to see what they are doing to solve the same problem you have.....	[]	[]	[]	[]	[]	(13)
(14) Getting sample materials and/or orientation from the developers of new programs in the problem area.....	[]	[]	[]	[]	[]	(14)
(15) Getting good, "hard" performance information about the effectiveness of programs you might consider for use in your situation.....	[]	[]	[]	[]	[]	(15)
(16) Finding a well developed innovation that is ready-made for your situation and doesn't require a lot of effort to use.....	[]	[]	[]	[]	[]	(16)
(17) Integrating new materials or procedures into your existing program.....	[]	[]	[]	[]	[]	(17)
(18) Reorganizing or re-doing, or adding on to what you are already doing, rather than adopting something totally new.....	[]	[]	[]	[]	[]	(18)
(19) Discovering innovative practices that other districts have invented to resolve a problem like yours.....	[]	[]	[]	[]	[]	(19)
(20) Finding a way to put together a number of components from different sources that will fit your unique needs.....	[]	[]	[]	[]	[]	(20)
(21) Securing additional part-time or full-time people to work on the problem.....	[]	[]	[]	[]	[]	(21)

	NO BARRIER	UNIMPORTANT	LOCALLY RESOLVABLE	NEED HELP	INTRACTABLE	
(22) Providing orientation and training for those who will be involved in implementing any changes you might make.....	[]	[]	[]	[]	[]	(22)
(23) Providing training for those who will manage or evaluate the staff involved in implementing any innovation.....	[]	[]	[]	[]	[]	(23)
(24) Securing outside help (consultants, advisers, trainers, etc.) to review your problem and help implement a solution.....	[]	[]	[]	[]	[]	(24)
(25) Changing the structure of the current organization or the roles of people involved.....	[]	[]	[]	[]	[]	(25)
(26) Improving the human relationships and group dynamics of those involved.....	[]	[]	[]	[]	[]	(26)
(27) Strengthening the leadership available to the school.....	[]	[]	[]	[]	[]	(27)
(28) Improving communication among the people and organizations that have to be involved.....	[]	[]	[]	[]	[]	(28)
(29) Encouraging and reassuring those who will be affected by any changes.....	[]	[]	[]	[]	[]	(29)
(30) Securing money or help to get information about possible innovations and develop plans for implementation.....	[]	[]	[]	[]	[]	(30)
(31) Securing money to purchase or arrange for donation of materials, or make other arrangements for physical requirements associated with the installation of an innovation you might select.....	[]	[]	[]	[]	[]	(31)
(32) Securing money or support to train personnel to be involved in solving the problem.....	[]	[]	[]	[]	[]	(32)
(33) Securing money or help to plan and carry out a reorganization.....	[]	[]	[]	[]	[]	(33)
(34) Securing money or help to hire additional personnel, or getting release time for existing personnel to be involved in solving the problem.....	[]	[]	[]	[]	[]	(34)
(35) Getting results that others will believe show improvements.....	[]	[]	[]	[]	[]	(35)
(36) Getting recognition for those who will have to work hardest to solve the problem.....	[]	[]	[]	[]	[]	(36)
(37) Getting salary increases or advancements for those who will have to work hardest to solve the problem.....	[]	[]	[]	[]	[]	(37)

NO BARRIER
UNIMPORTANT
LOCALLY
RESOLVABLE
NEED HELP
INTRACTABLE

(38) Reducing the tension or threat involved
in trying something new.....[] [] [] [] [] (38)

(39) Making sure that the training and experience
that those involved will get is perceived
by them to advance their individual careers..[] [] [] [] [] (39)

2. During the last two years, prior to our working with you, to what external sources have you turned for help in solving the defined problem? In the spaces provided below, name specific agencies to whom you have turned for help. Possible agencies you might have turned to would include:

- The state education agency
- a regional service agency
- an information center
- a private consulting firm
- colleges and universities
- federal program (including those available through the state)
- professional associations
- regional laboratories or centers
- other profit or non-profit agencies
- commercial publishers
- Other (name any others that you contacted)

For each agency named, indicate the type of help you sought (more than one can be indicated); use the abbreviations in parentheses to indicate type of help.

- A. Money (\$)
- B. Problem-definition or problem-solving help (Prob)
- C. Planning help (Plan)
- D. Human resources or training help (Human)
- E. Information (Info)
- F. New programs, innovations, products (Innov)
- G. Organizational development help (O.D.)
- H. Other (please describe)

NAME OF AGENCY		TYPE OF HELP	
Please give proper name of agency and department or office, if possible.		Please use abbreviations.	
EXAMPLE	State University, Department of Education	Plan, Human, Info	EXAMPLE

(continued)

NAME OF AGENCY Please give proper name of agency and department or office, if possible.	TYPE OF HELP Please use abbreviations.

3. Listed below are a number of possible forces or pushes toward action to resolve the problem noted in item I-1. Consider the following scale:

- 1 = Very important
- 2 = Important
- 3 = Neither important nor unimportant
- 4 = Unimportant
- 5 = Very unimportant.

Enter below the number (1 through 5) that represents how important you think each item is:

- a. _____ Community and parent pressure to do something
- b. _____ New state laws or regulations
- c. _____ Recent reductions in enrollment or budget
- d. _____ Strong belief by a significant portion of the staff that something needs to be done about the problem.
- e. _____ Availability of new money or a new opportunity to tackle the problem.
- f. _____ New leadership locally that supports a fresh look at the problem.
- g. _____ Other (specify):

IV. R&D PRODUCTS

On the following pages, eight Educational Research and Development products are described. Please read the descriptions and indicate beside each the extent to which you are familiar with the product. (Check (✓) all that apply for each product.)

1. UCLA's Center for the Study of Evaluation (CSE) Evaluation Workshops--training for educators to set up and manage evaluation of educational programs. CSE training materials include test evaluation books, kits, participants' notebooks, and leader's manuals. Topics cover: needs assessment, program planning, implementation and progress evaluation, evaluation outcome, and teacher appraisal for improvement.

☐ Never Heard ☐ Heard ☐ Reviewed ☐ Saw It ☐ Used
Of It Of It It In Use It

2. Northwest Regional Educational Laboratory's (NRWEL) Interpersonal Communications (IPC)--a program for teachers, administrators, and community people in concepts and skills of interpersonal communications related to education, instruction, and school management. Exercises require practice in behaviors believed essential for team teaching, differentiated staffing, and other instructional innovations where staff and sometimes community work together.

☐ Never Heard ☐ Heard ☐ Reviewed ☐ Saw It ☐ Used
Of It Of It It In Use It

3. Far West Laboratory's Minicourses--print and filmed inservice (and sometimes preservice) programs that help teachers to learn new skills in such areas as "Developing Children's Oral Language," "Effective Questioning," "Individualizing Instruction in Mathematics," "Organizing Independent Learning," and "Reading as Decoding." They practice the skills in their own classrooms and use video-tape recordings of their performance for self-evaluation.

☐ Never Heard ☐ Heard ☐ Reviewed ☐ Saw It ☐ Used
Of It Of It It In Use It

4. Experience-Based Career Education (EBCE)--four separate but related programs for secondary schools developed by Research for Better Schools (Philadelphia), the Northwest Regional Educational Laboratory (Portland), Appalachia Educational Laboratory (Charleston), and the Far West Laboratory (San Francisco). All focus on the relationship of work to school by arranging for field-based resources to serve as instructional settings for learning specific basic skills (such as Math), career orientation and guidance, and other life skills.

☐ Never Heard ☐ Heard ☐ Reviewed ☐ Saw It ☐ Used
Of It Of It It In Use It

SURVEY OF R&D UTILIZATION IN LOCAL SCHOOLS (T1)

SITE CODE: _____

5. Learning Research and Development Center's (LRDC) Individualized Science (IS)--a K-6 program that focuses on science processes and concepts. It is individualized and gives each child optional ways of obtaining the knowledge and skills of each unit. The child can choose to work alone, with another child, or in a group activity.

☐ Never Heard ☐ Heard ☐ Reviewed ☐ Saw It ☐ Used
Of It Of It It In Use It

6. Individually Prescribed Instruction in Mathematics (IPI)--developed by the Learning Research and Development Center (LRDC) in Pittsburgh and Research for Better Schools (RBS) in Philadelphia. This K-6 math program is individualized with diagnostic procedures, self-instructional materials, and individual tests available. Students can enter and progress at an appropriate level. The content is broken into 359 objectives.

☐ Never Heard ☐ Heard ☐ Reviewed ☐ Saw It ☐ Used
Of It Of It It In Use It

7. Wisconsin R&D Center's Multi-Unit School (MUS)--part of an overall program called Individually Guided Education. An organizational structure designed for the elementary school which defines new roles and relationships among teachers and principals. It encourages teacher participation in decision-making and stresses open communication and accountability. Optional available components include an instructional programming model, a program for home-school community relations, and a model for measurement and evaluation.

☐ Never Heard ☐ Heard ☐ Reviewed ☐ Saw It ☐ Used
Of It Of It It In Use It

8. The SWRL/Ginn Beginning Reading Program (BRP)--provided resources for conducting sequential instruction in beginning reading at the kindergarten level. Storybooks, practice exercises, instructional games, assessment exercises, flashcards, and other materials are included. Skills taught include ability to read 100 words, identify 23 initial and ending word elements, sound out and read one-syllable words, and name each letter of the alphabet.

☐ Never Heard ☐ Heard ☐ Reviewed ☐ Saw It ☐ Used
Of It Of It It In Use It

SURVEY OF R&D UTILIZATION IN LOCAL SCHOOLS

(T2: SELECTION OF SOLUTION)

SITE CODE: _____

NAME OF RESPONDENT: _____

MAILING ADDRESS: _____

TELEPHONE NUMBER: ()
Area Number Extension

TITLE OR ROLE IN THE
DISTRICT OR SCHOOL: _____

DATE SUBMITTED: _____

R&DUE
12/21/76

R&DUE

12/21/76

SITE CODE:

SURVEY OF R&D UTILIZATION IN LOCAL SCHOOLS

(T2: SELECTION OF SOLUTION)

Discussions were held between you and (name of individual or project) to examine possible services that might be useful to help improve your school program. In order to understand better how the R&D Utilization Project can continue to be of help, we would like your answer to several questions. Please answer in your own words as thoughtfully but briefly as possible.

I. THE PROBLEM

A previous questionnaire dealt with your views regarding the problem. (A copy of your earlier questionnaire responses is enclosed for reference.) Since your local needs assessment and problem solving efforts may or may not have led to a refinement or redefinition of the problem that you are facing, the following five questions in this first section ask you to compare your view of the problem now with the earlier view as stated in the previous questionnaire.

1. Please review your previous response to item 1, Section I.

- a. Has the problem changed since you began working with the R&D Utilization Project?

Yes ____ No ____

- b. If "Yes," please note how it has changed.

2. Please review your previous response to item 2, Section I.

- a. Since you began working with the R&D Utilization Project, has there been any change in your perception of the cause of the problem?

Yes ____ No ____

- b. If "Yes," please note the change below.

3. Please review your previous response to item 3, Section I.

- a. Since you began working with the R&D Utilization Project, has there been any change in who is most affected by the problem?

Yes ____ No ____

- b. If "Yes," please note the change below.

4. Please review your previous response to item 7, Section I.

- a. Since you began working with the R&D Utilization Project, have you changed your mind about what evidence you would need to know that the problem has been solved?

Yes ____ No ____ (If "No," go to question 4c.)

- b. If "Yes," what evidence would you need now?

- c. Is any evidence that the problem has been solved visible to you at this time?

Yes ____ No ____

4. (Continued)

d. If "Yes," what is the evidence?

5. Please review your previous response to item 5, Section I.

a. Since you began working with the R&D Utilization Project, have you found any other evidence regarding the problem?

Yes ____ No ____

b. If "Yes," what is it?

II. THE PROGRAM

1. Please review your previous response to item 2, in Section II.

a. Since you began working with the R&D Utilization Project, have you changed your mind about what you would like to change in order to solve the problem?

Yes ____ No ____

b. If "Yes," what would you like to change now?

III. PROBLEM SOLVING ACTIVITIES

In the previous questionnaire you were asked to rate a list of possible barriers to successful problem solving and were also asked to identify any external sources of help you may have turned to prior to the initiation of this project. In this section, we ask you to re-rate this same list of barriers as you see them now and then to identify any external sources of help you have turned to since the initiation of this project.

1. Given the problem you have identified, what barriers do you now see to successfully dealing with the problem? To answer the question, we ask that you respond to a list of possible barriers. For each item below, select one of six possible answers.

NO BARRIER	(I.e., as far as you know, the item represents no barrier to your success.)
RESOLVED	(I.e., the item represents a barrier that previously existed, but it has been resolved to the point where it is no longer a problem.)
UNIMPORTANT	(I.e., the item may represent a barrier, but it is not an important one and can easily be overcome.)
LOCALLY RESOLVABLE	(I.e., the item represents an important barrier, but you believe the school or project site personnel can resolve it themselves.)
NEED HELP	(I.e., the item represents an important barrier, but you would need external help to resolve it.)
INTRACTABLE	(I.e., the statement is an important barrier to your success, and even with outside help you're skeptical about the likelihood of being able to overcome it.)

- | | | | | | | | | |
|-----|---|------------|----------|-------------|--------------------|-----------|-------------|-----|
| | | NO BARRIER | RESOLVED | UNIMPORTANT | LOCALLY RESOLVABLE | NEED HELP | INTRACTABLE | |
| (1) | Getting new data about the nature of the problem | [] | [] | [] | [] | [] | [] | (1) |
| (2) | Defining more precisely the causes of the problem | [] | [] | [] | [] | [] | [] | (2) |

SURVEY OF R&D UTILIZATION IN LOCAL SCHOOLS (T2)

SITE CODE:

	NO BARRIER	RESOLVED	UNIMPORTANT	LOCALLY RESOLVABLE	NEED HELP	INTRACTABLE	
(3) Restating your goals, objectives, and criteria for selecting a new course of action	☐	☐	☐	☐	☐	☐	(3)
(4) Articulating your view of the problem with the relevant literature, research, or known practice.....	☐	☐	☐	☐	☐	☐	(4)
(5) Identifying what you are already doing to resolve the problem	☐	☐	☐	☐	☐	☐	(5)
(6) Improving your group planning, decision-making and general problem-solving skills .	☐	☐	☐	☐	☐	☐	(6)
(7) Developing a procedure for involving more people in the problem-solving/decision-making process	☐	☐	☐	☐	☐	☐	(7)
(8) Developing a good plan to carry us through the problem-solving process	☐	☐	☐	☐	☐	☐	(8)
(9) Setting up a good monitoring, evaluation and feedback system	☐	☐	☐	☐	☐	☐	(9)
(10) Securing more community and staff agreement and support for what needs to be done	☐	☐	☐	☐	☐	☐	(10)
(11) Finding out about the nature and range of innovations that might be available to help solve our problem	☐	☐	☐	☐	☐	☐	(11)
(12) Getting indepth information about just a few innovations that might help solve our problems	☐	☐	☐	☐	☐	☐	(12)
(13) Visiting or talking to others to see what they are doing to solve the same problem you have	☐	☐	☐	☐	☐	☐	(13)
(14) Getting sample materials and/or orientation from the developers of new programs in the problem area	☐	☐	☐	☐	☐	☐	(14)

SURVEY OF R&D UTILIZATION IN LOCAL SCHOOLS (T2)

SITE CODE: _____

- | | NO BARRIER | RESOLVED | UNIMPORTANT | LOCALLY RESOLVABLE | NEED HELP | INTRACTABLE | |
|--|------------|----------|-------------|--------------------|-----------|-------------|------|
| (15) Getting good, "hard" performance information about the effectiveness of programs you might consider for use in your situation | [] | [] | [] | [] | [] | [] | (15) |
| (16) Finding a well-developed innovation that is ready-made for your situation and doesn't require a lot of effort to use | [] | [] | [] | [] | [] | [] | (16) |
| (17) Integrating new materials or procedures into your existing program | [] | [] | [] | [] | [] | [] | (17) |
| (18) Reorganizing or re-doing, or adding-on to what you are already doing, rather than adopting something totally new | [] | [] | [] | [] | [] | [] | (18) |
| (19) Discovering innovative practices that other districts have invented to resolve a problem like yours | [] | [] | [] | [] | [] | [] | (19) |
| (20) Finding a way to put together a number of components from different sources that will fit your unique needs | [] | [] | [] | [] | [] | [] | (20) |
| (21) Securing additional part-time or full-time people to work on the problem | [] | [] | [] | [] | [] | [] | (21) |
| (22) Providing orientation and training for those who will be involved in implementing any changes you might make | [] | [] | [] | [] | [] | [] | (22) |
| (23) Providing training for those who will manage or evaluate the staff involved in implementing any innovation | [] | [] | [] | [] | [] | [] | (23) |
| (24) Securing outside help (consultants, advisers, trainers, etc.) to review your problem and help implement a solution | [] | [] | [] | [] | [] | [] | (24) |

SURVEY OF R&D UTILIZATION IN LOCAL SCHOOLS (T2)

SITE CODE: _____

	NO BARRIER	RESOLVED	UNIMPORTANT	LOCALLY RESOLVABLE	NEED HELP	INTRACTABLE	
(25) Changing the structure of the current organization or the roles of people involved	☐	☐	☐	☐	☐	☐	(25)
(26) Improving the human relationships and group dynamics of those involved	☐	☐	☐	☐	☐	☐	(26)
(27) Strengthening the leadership available to the school	☐	☐	☐	☐	☐	☐	(27)
(28) Improving communication among the people and organizations that have to be involved. ☐	☐	☐	☐	☐	☐	☐	(28)
(29) Encouraging and reassuring those who will be affected by any changes	☐	☐	☐	☐	☐	☐	(29)
(30) Securing money or help to get information about possible innovations and develop plans for implementation	☐	☐	☐	☐	☐	☐	(30)
(31) Securing money to purchase or arrange for donation of materials, or make other arrangements for physical requirements associated with the installation of an innovation you might select	☐	☐	☐	☐	☐	☐	(31)
(32) Securing money or support to train personnel to be involved in solving the problem	☐	☐	☐	☐	☐	☐	(32)
(33) Securing money or help to plan and carry out a reorganization	☐	☐	☐	☐	☐	☐	(33)
(34) Securing money or help to hire additional personnel, or getting released time for existing personnel to be involved in solving the problem	☐	☐	☐	☐	☐	☐	(34)
(35) Getting results that others will believe show improvements	☐	☐	☐	☐	☐	☐	(35)

SURVEY OF R&D UTILIZATION IN LOCAL SCHOOLS (T2)

SITE CODE: _____

- | | NO BARRIER | RESOLVED | UNIMPORTANT | LOCALLY RESOLVABLE | NEED HELP | INTRACTABLE | |
|--|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|------|
| (36) Getting recognition for those who will have to work hardest to solve the problem.. | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | (36) |
| (37) Getting salary increases or advancements for those who will have to work hardest to solve the problem..... | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | (37) |
| (38) Reducing the tension or threat involved in trying something new..... | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | (38) |
| (39) Making sure that the training and experience that those involved will get is perceived by them to advance their individual careers..... | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | (39) |

SURVEY OF R&D UTILIZATION IN LOCAL SCHOOLS (T2)

SITE CODE: _____

2. Since we have been working with you on this project, to what external sources have you turned for help in solving the defined problem? In the spaces provided below, name specific agencies to whom you have turned for help. Possible agencies you might have turned to would include:

- the state education agency
- a regional service agency
- an information center
- a private consulting firm
- colleges and universities
- federal program (including those available through the state)
- professional associations
- regional laboratories or centers
- other profit or non-profit agencies
- commercial publishers
- other (name any others that you contacted)

For each agency named, indicate the type of help you sought (more than one can be indicated); use the abbreviations in parentheses to indicate type of help.

- A. Money (\$)
- B. Problem-definition or problem-solving help (Prob)
- C. Organizational development help (O.D.)
- D. Other (please describe)
- E. Information (Info)
- F. New programs, innovations, products (Innov)
- G. Planning help (Plan)
- H. Human resources or training help (Human)

NAME OF AGENCY		TYPE OF HELP	
Please give proper name of agency and department or office, if possible.		Please use abbreviations.	
EXAMPLE	State University, Department of Education	Plan, Human, Info	EXAMPLE

SURVEY OF R&D UTILIZATION IN LOCAL SCHOOLS (T2)SITE CODE:

NAME OF AGENCY Please give proper name of agency and department or office, if possible.	TYPE OF HELP Please use abbreviations.

SURVEY OF R&D UTILIZATION IN LOCAL SCHOOLS (T2)SITE CODE:

3. Listed below are a number of possible forces or pushes toward action to resolve the problem noted in item I-1. Consider the following scale:

- 1 = Very important
- 2 = Important
- 3 = Neither important nor unimportant
- 4 = Unimportant
- 5 = Very unimportant

Enter below the number (1 through 5) that represents how important you think each item is:

- a. _____ Community and parent pressure to do something.
- b. _____ New state laws or regulations.
- c. _____ Recent reductions in enrollment or budget.
- d. _____ Strong belief by a significant portion of the staff that something needs to be done about the problem.
- e. _____ Availability of new money or a new opportunity to tackle the problem.
- f. _____ New leadership locally that supports a fresh look at the problem.
- g. _____ Other (specify):

IV. PROBLEM REFINEMENT

1. From your perspective, what persons made the most valuable contributions in the problem identification process?

SURVEY OF R&D UTILIZATION IN LOCAL SCHOOLS (T2)

SITE CODE:

2. What was the most valuable information source you used to identify potential solutions to your problem?
3. What were the most important factors you used in selecting your solution?
4. What are the most important adjustments you expect to have to make to successfully implement the solution you have selected?

2

Instructions for
Linking Agent's/Facilitator's Commentary on
Survey of Research and Development Utilization Project
on Local School Sites
(T1: Project Initiation)

R&DUE

12/28/76

[SAMPLE COVER LETTER TO LINKING AGENT/FACILITATOR]

Dear

In the near future you will be receiving questionnaires completed by respondents in the school systems you work with as part of (project name). Your role is to review the responses on each questionnaire and make your comments on any of the responses that you think needs clarification, on which you have an opinion, or information that is not reflected in the questionnaire. This packet contains Commentary Forms and Guidelines on how to prepare your comments. Please take time now to review these Guidelines carefully and read them again when you receive the questionnaires from the respondents at the local sites.

As you know, (project name) is designed to provide external support to schools trying to improve their educational programs through the use of research-based findings and products. An important element of this program is the examination of the entire adoption process from the practitioner's point of view. The resulting information will benefit the practitioner and help you gain insight into his/her problems and provide appropriate support services. It will also provide information to guide Federal and State policies and enrich the theoretical and research-based knowledge regarding educational innovation methods and outcomes.

We do not expect you to have comments on every answer. However, any comments you make will play a central role in our understanding of a school's situation. Again, we urge you to read through the enclosed Guidelines carefully now and again just before you begin your commentaries so that you will understand exactly what your responsibilities are. Should you at any time need additional assistance in completing the commentary, please feel free to contact _____.

[Project Evaluator]

In your packet are Commentary Forms with Cover Sheet for you to complete and attach to each site respondent's questionnaire as it is received. This will insure that your questionnaires and comments do not get confused with someone else's. Please remember to fill out the Cover Sheet of the Commentary Form and attach it immediately when you receive each questionnaire.

We thank you for your thoughtful participation in this effort. With your help, the R&D Utilization Program will prove to be successful.

Sincerely yours,

(Someone)

GUIDELINES FOR THE LINKING AGENT/FACILITATOR

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GUIDELINES FOR THE COMMENTARY

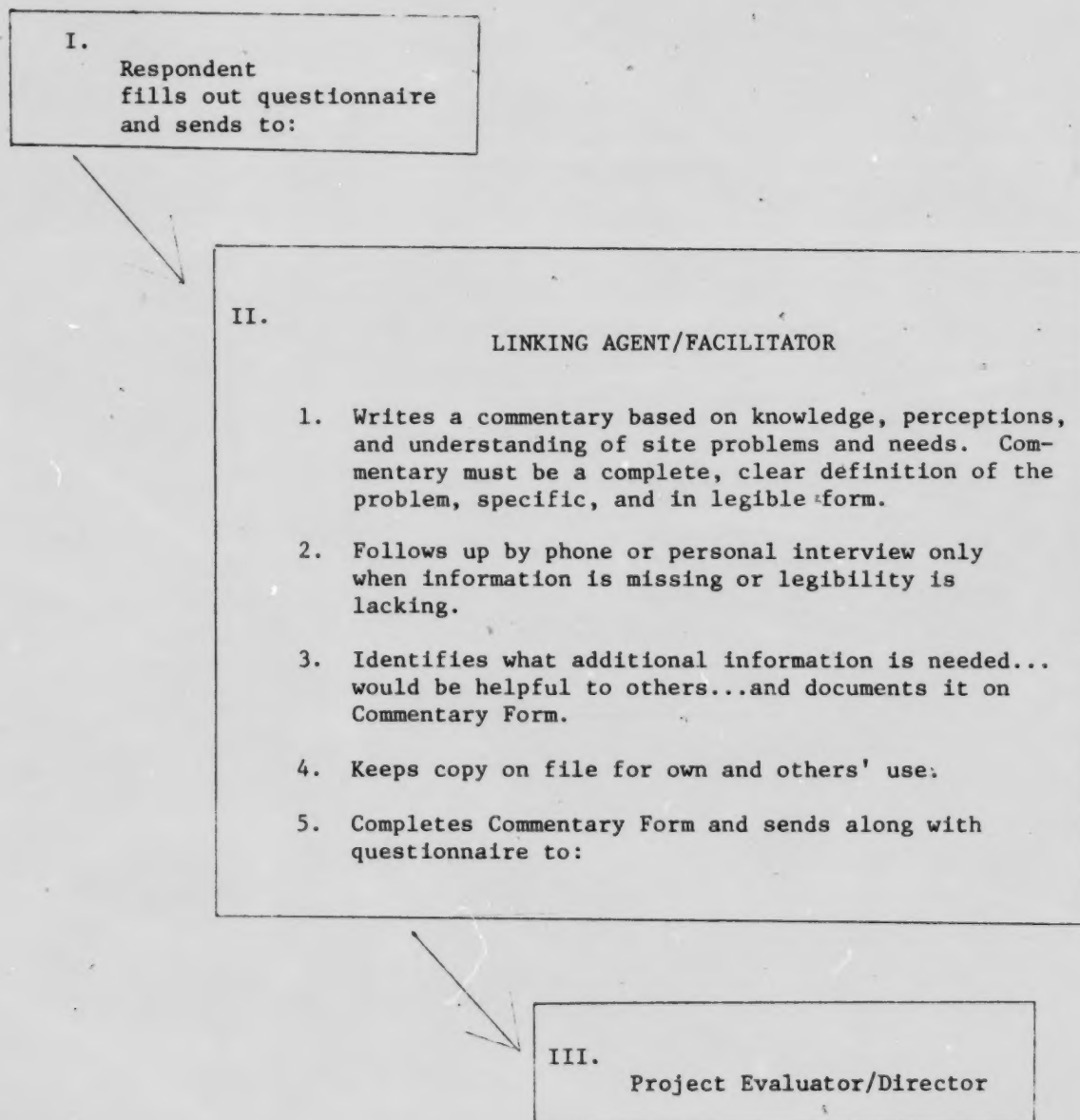
I. Overview of the R&D Utilization Research Effort

The research effort accompanying the R&D Utilization Program will strive to examine the process of adopting R&D projects from the school practitioner's and Linking Agent/Facilitator's points of view. The current research program includes the administration of a survey questionnaire at three times over a twelve to eighteen month period. The questionnaires from the sites that you work with and your commentary on each of them are part of this information-collecting process. You and the site respondents both bring unique and overlapping perspectives to the description of the process. Therefore, we ask you to review the site respondent's answers on the questionnaires you receive and respond with your own comments. These Guidelines contain instructions and suggestions regarding how to accomplish this.

II. Overview of Your Role in the Research Process

The following diagram summarizes how you are to receive the questionnaires and what you are to do with them. More detailed instructions follow.

Time of Program Initiation



III. Confidentiality of the Commentary

The Commentary Form contains several open-ended questions to permit you to discuss clearly and frankly the particular problems and needs you perceive at each site. The respondent will not see your comments on his/her responses since they will be contained on the Commentary Form. After reviewing the respondent's questionnaire and completing your commentary, you may feel that you have some information to offer the respondent that will aid in the resolution of the site's problem. Please feel free to contact the respondent and provide this information.

The commentary you provide will be incorporated into reports that will be read by others. Every effort will be made to preserve the anonymity of the individuals and schools involved. However, it may be difficult to completely disguise the identity of the site. Therefore, you must exercise your professional judgment regarding your statements.

IV. Functions of the Commentary

Each Linking Agent/Facilitator will review the answers of the respondents and comment upon these answers on the Commentary Form. Your role in writing this commentary is basically to provide the following:

- A. legibility - insuring that the respondent's answers and your comments are readable. If the respondent's answers are not, you will need to contact the respondent to clarify his/her answer.
- B. elaboration - adding more information to give a fuller picture of the site than that provided by the respondent.
- C. interpretation - providing your own viewpoint as to why and how the problem exists. Your interpretation may or may not agree with that of the respondent.

By keeping in mind these three functions of the commentary, you will be able to provide a fuller perspective of the site and its unique needs.

V. Time Needed to Complete the Commentary

We estimate that it takes approximately 30 minutes to complete each commentary. Please allow yourself sufficient time and a quiet place where you will not be interrupted so that you will be able to thoughtfully formulate your responses to each question.

VI. Instructions for the Commentary

1. Complete the Commentary Form. Your Project Evaluator will provide you with a site code for each site. Fill in the site code in the space provided on the first two sheets of both the respondent's questionnaire and the Commentary Form. This is the only way we have to keep track of each questionnaire and its commentary. It is extremely important that you do this.
2. Read through the instructions carefully and completely before you begin.
3. Check the respondent's questionnaire for completeness. Please see that each site respondent has provided an answer to each question. If answers are missing or illegible, you may have to contact the site respondent for that information.
4. Read each item and the respondent's answer. Decide whether or not you would like to comment on any of the answers. On the "Item Checklist" provided in the Commentary Form, check the "Yes" box in the "Needs Comments" category beside the number of each item that you think

needs commenting upon. Place a check in the "No" box beside each item that you think does not need to be commented upon. Please check one of the two categories ("Yes" or "No") for each item.

Note that the T1 questionnaire is divided into four sections. Section I, The Problem, contains items that are aimed at obtaining information about the problem which the respondent feels requires attention in his or her situation. Questions I-1 through I-7 are included in this category. Section II, The Program, contains items II-1 and II-2, which are aimed at briefly characterizing the program or activities which may have existed in the past and what changes in them might be desired at the present time. Section III, Problem Solving Activities, contains items III-1 through III-3 aimed at revealing the conditions which need to be overcome at the site in order to solve the problem. Section IV, R&D Products, contains one item which gets at the respondent's knowledge of R&D outcomes.

5. Write your commentary about each of the respondent's answers that you wish to comment upon. When you are writing your comments, consider each item in each of the categories. Think about the questions and the respondent's answer. Do you have any additional relevant information to answer the question? If so, you can elaborate on the respondent's answer. Is his/her perception of the school's problem or needs the same as yours? Perhaps you disagree. You may wish to add your own interpretation. Guidance for formulation of your comments may be found in the example items provided in the next section of these Guidelines. Please try to be as specific as possible. The people reading your commentary are not familiar with the site the way you and the respondent are. If you can, think in terms of measurable factors like number of staff, student scores, per pupil expenditures, and the like. The more specific we can be

in identifying a problem, the more information we have about how the problem might be resolved. That is why we are asking you to take the time to study the respondent's answer and to provide detailed commentary.

6. Write your comments on the appropriate sheets in the Commentary Form.

Any comments you wish to make on items I-1 through I-7 should be made on the sheet labeled Section I, The Problem, in the Commentary Form. Your comments on items II-1 and II-2 should be made on the sheet labeled Section II, The Program. The comments on items III-1 through III-3 should be made on the sheet labeled Section III, Problem Solving Activities, and comments on item IV-1 should be made on the sheet labeled Section IV, R&D Products. Be sure to include the entire number of each item that you are commenting upon (i.e., item III-3). If you need to, add additional pages to record your commentary. Please print or type your comments.

7. Make copies of the respondent's questionnaires and your comments for your files. (You may be called upon to review your answers in the second phase of the research process.)

KEEP THIS SET OF INSTRUCTIONS AND A COPY OF YOUR WRITTEN COMMENTARY FORM FOR FUTURE REFERENCE.

8. Staple the original Commentary Form to the respondent's questionnaire.

Make sure that the Cover Sheet of the Commentary Form is properly filled out.

9. Return your questionnaires and the commentary in the stamped, self-addressed envelope provided to:

10. At this time you may wish to inform the respondents of anything you think he/she may need to know based on your review of his/her questionnaire.

Thank you!

VII. Examples of Respondent's Answers and Comments on Them

On the following pages you will find examples of questions on the respondent's questionnaire which may require your commentary. These represent examples of answers by hypothetical respondents, a discussion of the clarity and depth of the answers, and examples of commentary on each question by a hypothetical Linking Agent/Facilitator. These are provided to give you an idea of the type of description desired and to help guide you in preparing your comments. The examples used here refer to a hypothetical site where reading is the major problem identified.

Please take the time to read through these examples carefully so that you will understand what is required of the commentary.

NOTE: DO NOT FORGET TO FILL IN SITE CODE ON EACH PAGE AND ATTACH COMMENTARY FORM TO THE QUESTIONNAIRE, COMPLETELY FILLED OUT (return questionnaire in the stamped, self-addressed envelope provided).

SITE CODE:

I. The Problem

Please read items I-1 through I-7 and their written answers on the respondent's questionnaire. Please check (✓) whether or not each item requires comments. If "Yes," give a short comment. Then summarize below your opinions about Section I, The Problem, which aims at obtaining information about the problem which the respondent feels requires attention at his/her site. (Please add additional pages if necessary.)

I-3 Who is most affected by the problem?

I-3. We are all affected by the problem. Teachers, students, parents & administrators.

Item	<u>Needs Comments</u>		<u>Comments</u>
	No	Yes	
I-1	[X]	[]	
I-2	[X]	[]	
I-3	[]	[X]	<i>I do agree that all are affected. However, I would rank the student first. They are most hurt by lack of progress in reading.</i>
I-4	[X]	[]	
I-5	[X]	[]	
I-6	[X]	[]	
I-7	[X]	[]	

Interpretation: The Linking Agent/Facilitator agrees with the respondent's evaluation that all indicated are affected, but believes that the student's lack of progress is the most important effect.

Handwritten Answer
Appearing on Respondent's
Questionnaire

Handwritten
Linking Agent/Facilitator
Commentary

Discussion

Handwritten Linking Agent/Facilitator's Summary Statement:

The student target population is, at this time, in the 4th grade. There is an obvious lack of interest in reading on behalf on the students. SAT Reading test scores have been lower than ever. Each day discipline problems become more difficult to deal with, especially among the lower achieving children. Parents do not provide the kind of home environment which encourages students to read. The students cannot read, which frustrates parents, who put pressure on school districts, who in turn pressure teachers who are already frustrated because there is no student interest. Student reading problems affect performance in other classes.

The respondent also told me she wanted increased visits from the district supervisors so it can be made clear on a first hand basis that we do have a reading problem. I think this would be useful to communicate the extent and nature of the problem to district administrators. Other problems include classrooms that are too large, and a lack of good classroom management.

My interpretation of this problem in this district is that they need smaller reading classes and/or aides and/or voluntary staff, and better overall classroom management and more adequate inservice training in reading methods is also needed.

EXAMPLE 2

SITE CODE:

II. The Program

Read items II-1 and II-2 on the respondent's questionnaire. Please check (✓) whether or not each item requires comment. If "Yes," give a short comment. Summarize your opinion about Section II, The Program, which aims at characterizing the program or activities which may have existed in the past and what changes in them might be desired at the present. Add additional pages if necessary.

II-2 At this time, what would you like to change in order to solve the problem?

II-2. Our needs assessment has indicated that our concern, at this time, is improving management skills in the classroom. For future planning through improving these skills we will also alleviate the problem of continuity with our students movement from grade to grade.

Needs CommentsComments

Item	No	Yes
II-1	[X]	[]
II-2	[]	[X]

We have added an outside consultant to work directly with the remedial program in the site's resource room.

Elaboration: Linking Agent/Facilitator, from his/her special knowledge of the site, provides additional information about current attempts to solve problem.

Handwritten Linking Agent/Facilitator's Summary Statement:

During the past two years, the site has worked hard to pinpoint the conditions which contribute to the problem. The first step in trying to solve the problem was to hire a half-time reading consultant. This should enable the classroom teacher to devote her full attention to students reading at grade level.

EXAMPLE 3

SITE CODE:

III. Problem Solving Activities

Read items III-1 through III-3 on the respondent's questionnaire. Please check (✓) whether or not each item requires comment. If "Yes," give a short comment. On the remainder of the page summarize your opinions about Section III, Problem Solving Activities, which aims at revealing conditions which need to be overcome at the site in order to solve the problem.

III-2 To what external resources have you turned for help in solving the defined problem?

Handwritten Answer
Appearing on Respondent's
Questionnaire

NAME OF AGENCY Please give proper name of agency and department or office, if possible.	TYPE OF HELP Please use abbreviations.
<i>State University Dept. of Education</i>	<i>Plan Human Info.</i>
<i>Community Resources Center</i>	<i>Prob.</i>

Handwritten
Linking Agent/Facilitator
Commentary

Needs CommentsComments

Item No Yes

III-1 [X] []

III-2 [] [X]

III-3 [X] []

Dept. of Ed was very helpful in providing information + training at a later date; less helpful re: planning consultation. Site decided to turn to private consultant for indepth plan.

Discussion

Elaboration: The Linking Agent/Facilitator provides more detailed information about the usefulness of this agency.

Interpretation: The Linking Agent/Facilitator also identifies private consultant known to have provided planning help.

Handwritten Linking Agent/Facilitator's Summary Statement:

Because of pressure from parents and the community, the school personnel went to the Community Resource Center and used it as a forum for public discussion about the problem during the needs assessment, and afterwards. They feel this move helped achieve better understanding about the problems faced and support for what needs to be done to help solve the problem. The next step in the process was to contact the State University, Dept. of Education, for guidance toward resolving the problem. They now realize that there is no "magic recipe" and more extensive study will be required.

EXAMPLE 4

SITE CODE:

IV. R&D Products

Read items IV-1 through IV-8 on the respondent's questionnaire. Please check (✓) whether or not each item requires comments. If "Yes," give a short comment. On the remainder of this page, summarize your opinion about Section IV, R&D Products, which aims at determining how familiar the site may be with a number of products created through educational Research and Development.

IV-8 The SWRL/Ginn Beginning Reading Program (BRP)

[] Never Heard [X] Heard [] Reviewed [] Saw It [] Used
Of It Of It It In Use It

Needs CommentsComments

Item No Yes

IV-1 [X] []

IV-2 [X] []

IV-3 [X] []

IV-4 [X] []

IV-5 [X] []

IV-6 [X] []

IV-7 [X] []

IV-8 [] [X]

Site requested and I have written
for further information on this product

Do you know of any other R&D products that have been used in the past two years at this site?

For the past two years, the site has been trying to adapt the Corrective Reading Program to local needs. This has not been successful, however, because it is not multi-cultural in nature and their bilingual student population has increased 35% during the last year.

Handwritten Answer
Appearing on Respondent's
Questionnaire

Handwritten
Linking Agent/Facilitator
Commentary

S	C	P		I
70-71	72-73	74-75	76-77	78-80

237

CHECK HERE IF CONTINUED ON OTHER SIDE
RDUE/TL (4/1/77)

TRANSACTION LOG INSTRUCTIONS

PURPOSE

This Transaction Log is intended to help you document all major transactions between your project and the sites with which you work. For purposes of this log, a major transaction is defined as a delivery of a service by the project to a school/site. The approximate amount of time spent on each transaction is required. Transaction logs will be generated as follows:

1. Maintain a separate log file for each site with which you work.
2. Record each transaction as soon as possible after it has occurred.
3. If data is available, record all major transactions which occurred since the beginning of your work with schools/sites involved in the project.
4. Log sheets can be most easily maintained in a 3-ring binder.
5. Remove each Transaction Log sheet after you have completed a transaction and file it so that you can forward it to the PROJECT EVALUATOR at the end of the month. Clearly write the name of the site on the file.

HOW TO CODE A TRANSACTION-- Enter Project Code and Site Code in the boxes provided at the top of this log.

SECTION 1 - SITE PERSONNEL

Decide which site personnel were directly contacted and involved in the transaction and how many. This section provides space to record the number of site personnel involved in the appropriate box(es). (Example: Two teachers were directly involved in a transaction. Write "2" in the box to the left of "teachers.")

SECTION 2 - EXTERNAL PERSONNEL

Decide which project-related staff or non-project staff were involved in the transaction. Record the number of persons in each role in the boxes left of the descriptors. IF YOU ARE NOT the Linking Agent/Facilitator (LA/F), record in two boxes--in descriptor box describing your role, and enter the numeric code of your role in the last heavy-lined box at the bottom of Section 2.

SECTION 3 - TRANSACTION PERIOD

- a. **Date Initiated:** Enter date on which the transaction request first occurred by month, day, and last two digits of the year. (Example: April 4, 1977 should be recorded as "04," "04," and "77.")
- b. **Date Completed:** Record in the same manner as "date initiated," but only when the transaction is completed. If a transaction is initiated and completed on the same day, you must either enter the date initiated and draw a line across the "Date Completed" boxes (Example 1 below), or enter the same date in "Date Initiated" and "Date Completed" boxes (Example 2 below).

Example 1

TRANSACTION PERIOD	No.	Day	Year
04-04	04	04	77
04-04			

Example 2

TRANSACTION PERIOD	No.	Day	Year
04-04	04	04	77
04-04	04	04	77

SECTION 4 - PROJECT EFFORT

Record the number of hours and minutes spent working directly on the transaction (including preparation time). If effort is shared among sites, allocate proportionately.

SECTION 5 - TRANSACTION INITIATOR

Decide who initiated the contact. Was it the project-supported personnel, the site/school personnel, or was it jointly initiated by project and site personnel?

SECTION 6 - FORM OF CONTACT

Indicate form of contact. Check box under "R" for form of request; check box under "D" for form of delivery.

SECTION 7 - INTENT OF SERVICES PROVIDED

Check intent of service(s) provided. If more than one service was involved, rank by order of importance. (Example: Information was requested to (2) "stimulate interest," which led to (1) "conflict resolution or mediation.")

SECTION 8 - CONDITIONS ADDRESSED

Indicate conditions that were addressed by this transaction. Rank by order of importance (1 = knowledge, 2 = plans, etc.).

DEFINITION OF CONDITIONS

A conducive organizational environment (leadership, absence of threat, organizational problem-solving, or innovation and implementation capacity).

An opportunity or triggering impetus.

Organizational reasons and individual incentives for change.

Knowledge (of reasons for change of R&D alternative, of required processes, or of probable outcomes).

An innovation--a clearly defined, different way of doing things that matches local needs and constraints.

Material resources (money, facilities, materials, supplies).

Human resources (skills, time, energy).

A plan--evoke commitment and move toward solution.

Time--sufficient time to complete and evaluate the activity.

SECTION 9 - SITE PROBLEM SOLUTION PHASE

Decide which phase of the problem-solving process the transaction relates to. Check appropriate box if only one problem phase. If more than one problem phase is involved in this transaction, rank by order of importance.

NOTES

- a. Wherever you have recorded "Other" in Sections 1 or 2, please specify definitive title; in Sections 7, 8, or 9, please describe briefly.
- b. At the end of each month, forward all transaction logs to your PROJECT EVALUATOR.

TRANSACTION DESCRIPTION (Continued)

APPENDIX C

Additional Tables for Final Data Analysis

TABLE I
PERCEPTIONS OF PROBLEM AND CAUSE
AT T1 BY PROJECT AND TYPE RESPONDENT

Coding Category	PROJECT 3		PROJECT 4		PROJECT 5		PROJECT 6		PROJECT 7		PROJECT 8		PROJECT 9														
	PR		PR		PR		PR		PR		PR		PR														
	freq	%	freq	%	freq	%	freq	%	freq	%	freq	%	freq	%													
Problem content																											
curriculum	12	40			9	43	7	70	1	12	4	15	6	21	7	29	4	13	1	5	3	16	3	14	21	40	
expertise	8	27			4	19	3	30	7	88	17	65	14	50	9	38	8	26	10	56	12	63	8	36	7	13	
resources	3	10			0	0	0	0	0	0	1	4	2	7	5	21	1	3	1	5	3	16	3	14	19	36	
other technology	6	20			2	9	0	0	0	0	2	8	5	18	0	0	7	23	5	28	1	5	1	4	4	8	
internal organization	1	3			6	29	0	0	0	0	2	8	1	4	3	12	11	35	1	5	0	0	7	32	2	4	
students																											
teachers																											
other																											
Cause of problem																											
external environment	3	8			4	15	2	14	4	40	6	18	4	12	4	14	5	15	6	28	12	31	8	21	4	5	
internal organization	7	18			11	41	2	14	0	0	6	18	2	6	5	17	9	27	1	4	4	10	6	15	5	6	
resources	10	26			4	15	5	36	2	20	4	12	6	18	4	14	6	18	6	28	9	23	13	33	41	50	
expertise	3	8			3	10	2	14	0	0	7	21	8	25	5	17	7	21	2	9	7	18	5	13	21	26	
other technology	16	41			5	19	3	22	4	40	10	30	12	38	11	38	6	18	7	31	7	18	7	18	11	13	
students	12	36			4	24	2	33	4	55	12	50	12	40	5	25	8	31	9	47	10	40	10	30	15	28	
teachers	12	36			6	35	4	67	1	16	7	29	16	53	12	60	10	38	7	37	10	40	19	58	26	49	
other	9	28			7	41	0	0	2	29	5	21	2	7	3	15	8	31	3	16	5	20	4	12	12	23	
Evidence of problem																											
tests	10	53			11	50	2	18	11	92	22	67	13	65	13	54	4	17	10	59	12	50	11	47	3	10	
survey	4	21			1	4	1	9	0	0	0	0	0	0	2	9	0	0	0	0	3	13	0	0	9	28	
discussions	2	10			5	23	2	18	0	0	5	15	1	5	2	9	5	22	1	6	1	4	4	16	12	37	
observation	3	16			5	23	6	55	1	8	6	18	6	30	9	37	12	52	6	35	8	33	9	37	8	25	
Duration of problem																											
less than 1 year	35	13			0	0	0	0	0	0	0	0	0	0	62	9	0	0	0	0	0	0	0	0	0	0	0
1-5 years	61	26			5	29	0	0	3	50	11	41	4	20	5	29	4	18	2	13	1	6	9	45	8	24	
more than 5 years	14	61			12	71	8	100	3	50	16	59	16	80	12	71	16	73	13	87	16	94	11	55	26	76	

PR = Principal Respondent

I = Interviewees

(Continued next page)

TABLE I (Cont'd)

Coding Category	PROJECT 3		PROJECT 4		PROJECT 5		PROJECT 6		PROJECT 7		PROJECT 8		PROJECT 9	
	PR		I		PR		I		PR		I		PR	
	freq	%	freq	%	freq	%	freq	%	freq	%	freq	%	freq	%
Evidence for amelioration cognitive skills content sub. specialty school procedures	21 1 6	75 4 21			8 4 2	57 28 14	4 5 1	40 50 10	6 1 0	86 14 0	24 5 3	75 16 9	14 16 3	42 48 9
Done in past altered introduced developed	5 20 8	15 60 25			5 12 12	18 41 41	3 4 2	33 44 23	6 8 0	43 57 0	5 8 3	31 50 19	14 28 19	23 46 31
curriculum resources testing	12 14 6	37 44 19			10 13 7	33 43 23	2 5 0	29 71 0	5 6 0	45 55 0	7 7 1	47 47 6	12 14 1	26 43 31
Relation to problem weak/none moderate strong	13 9 12	38 26 36			9 11 10	30 37 33	4 3 3	40 30 30	2 8 3	15 62 23	9 8 2	47 42 11	3 12 44	41 58 1
Like to do in future alter introduce develop	10 15 7	31 47 22			14 7 8	48 24 28	5 2 3	50 20 30	6 6 1	46 46 8	15 6 2	65 26 9	14 12 8	41 35 24
curriculum resources membership expertise	6 11 4 4	24 44 16 16			7 12 7 2	23 40 23 14	2 6 1 0	22 67 11 0	5 4 0 0	55 45 0 0	8 6 2 4	40 30 10 20	7 13 0 5	25 59 5 11
students teachers	10 9	53 47			6 11	35 65	3 3	50 50	3 6	33 67	11 9	55 45	12 12	50 50
Relation to problem none/weak moderate strong	12 10 11	36 30 34			5 14 11	16 47 37	3 4 3	30 40 30	0 7 4	0 64 36	8 16 3	30 59 11	0 18 10	0 64 36

PR = Principal Respondent

I = Interviewees

TABLE II
PERCEPTIONS OF PROBLEM
AND CAUSE AT T1

Coding Category	Response Frequency
Problem content	
curriculum	74
expertise	103
resources	37
other technology	29
internal organization	34
students	87
teachers	104
other	77
Cause of problem	
external environment	58
internal organization	66
resources	106
expertise	66
other technology	97
students	98
teachers	119
other	56
Evidence for Problem	
tests	111
survey	20
discussion	38
observation	72
Duration of Problem	
less than	
1 year	2
1-5 years	55
more than	
5 years	156

Coding Category	Response Frequency
Cognitive skills	145
Content subj.	
specialty	45
School procedures	31
Done in past	
altered/strengthened	83
introduced/adopted	138
developed/sought	73
curriculum	84
resources	134
testing	23
Relation to problem	
weak/none	97
moderate	127
strong	83
Like to do in future	
alter	137
introduce	107
develop	72
curriculum	66
resources	138
membership	27
expertise	33
students	95
teachers	118
Relation to problem	
weak/none	72
moderate	160
strong	87

n = 135 Principal Respondents
and 90 other Site Respondents (Interviewees)

KEY TO TABLE III.- TABLE V

- Total I/Site = Average number of times site (internal) people involved in transactions per site
- Total I/Log = Average number of site (internal) people involved in transactions per transaction
- Total E/Site = Average number of times external personnel involved in transactions per site

Internal (Site) Personnel

- I_/site = number of transactions in which the indicated type of person is involved per site
- I_/log = proportion of transactions in which the indicated type of person involved (i.e. the probability that the indicated type of person will be involved in any particular transaction)
- I₁ = superintendents
- I₂ = curriculum/instruction staff
- I₃ = other district office staff
- I₄ = principals
- I₅ = department heads
- I₆ = teachers
- I₇ = aides
- I₈ = other school staff
- I₉ = non-district/non-school personnel

External Personnel

- E₁ = linking agents/facilitators
- E₂ = project directors/managers
- E₃ = project evaluators
- E₄ = project developers/trainers
- E₅ = project information specialists
- E₆ = other project staff
- E₇ = department of education staff
- E₈ = intermediate service agency staff
- E₉ = university/college staff
- E₁₀ = other non-project staff

Intent of Services Provided

- S₁ = stimulate, initiate, or motivate
- S₂ = provide information
- S₃ = problem clarification
- S₄ = decision-making
- S₅ = planning
- S₆ = training or orientation
- S₇ = conflict resolution or mediation
- S₈ = evaluation
- S₉ = other

Transaction Initiator

- IA₁ = project personnel
- IA₂ = site/school personnel
- IA₃ = jointly (project and site/school)

Form of Contact: R=request, D=delivery

- R₁,D₁ = telephone
- R₂,D₂ = letter/mail
- R₃,D₃ = project personnel visit to site
- R₄,D₄ = site personnel visit to project
- R₅,D₅ = meeting (off site, off project)

Conditions-need for:

- C₁ = organizational development
- C₂ = opportunity
- C₃ = reasons for change effort
- C₄ = knowledge
- C₅ = innovation
- C₆ = material resources
- C₇ = human resources
- C₈ = plans
- C₉ = time
- C₁₀ = other

TABLE III

SIGNIFICANCE OF DIFFERENCE IN TRANSACTION LOG
VARIABLES WITHIN PROJECTS AND BETWEEN LINKING AGENTS WITHIN PROJECTS

Transaction Log Variable	Phase 1				Phase 2				Phase 3			
	Project		LA		Project		LA		Project		LA	
	F	SV	F	SV	F	V	F	SV	F	SV	F	SV
Hours/site	2.26	14	26.04**	78	1.10	0	1.40	13	7.42**	22	0.42	0
Hours/log	2.10	10	5.48**	56	0.34	0	2.91**	43	1.86	11	1.61	16
Logs/site	5.68**	35	3.84**	32	2.67	16	1.75	17	1.78	11	3.09**	40
Internal/log	2.38	13	4.60**	48	1.59	8	3.75**	44	2.71	19	1.93*	22
External/log	4.92**	29	2.58**	26	3.14*	30	9.43**	52	5.43**	50	17.42**	43
I 1/log	0.19	0	5.17**	56	0.55	0	1.77	20	1.63	11	7.22**	63
I 2/log	2.54	11	1.81*	19	1.71	10	4.27**	47	1.06	1	1.09	3
I 3/log	1.79	6	3.33**	42	1.74	11	5.29**	53	1.93	3	2.76**	36
I 4/log	9.74**	52	3.72**	23	7.05**	47	3.13**	22	8.00**	54	3.37**	22
I 5/log	4.46**	19	1.08	2	2.50	8	0.73	0	3.47*	20	1.09	2
I 6/log	1.38	1	8.40**	72	1.79	10	2.62**	32	0.60	0	5.09**	61
I 7/log	2.96*	14	2.94**	18	0.73	0	1.07	2	0.58	0	2.56**	38
I 8/log	0.52	0	31.86**	91	0.86	0	7.56**	69	0.52	0	6.83**	69
I 9/log	0.90	0	27.85**	90	3.03*	23	3.07**	32	2.71	25	6.14**	50
E 1/log	0.52	0	7.43**	69	13.94**	59	1.76	8	0.28	0	4.15**	55
E 2/log	0.54	0	6.36**	64	1.46	6	4.29**	50	0.41	0	33.50**	92
E 3/log	0.18	0	6.36**	64	1.10	1	1.72	18	1.98	15	4.52**	50
E 4/log	6.00**	36	6.00**	31	17.42**	59	0.04	0	4.91**	48	17.24**	48
E 5/log	0.55	0	6.90**	66	14.36**	64	2.60**	13	5.78**	47	4.47**	31
E 6/log	2.90*	12	1.31	8	1.08	1	7.50**	68	1.27	4	4.40**	53
E 7/log	1.44	2	6.67**	60	0.58	0	4.71**	56	0.50	0	67.44**	96
E 8/log	0.93	0	1.29	8	1.24	5	53.50**	90	2.25	22	16.33**	67
E 9/log	1.11	0	10.67**	77	1.42	6	6.00**	56	3.36*	35	14.50**	55
IA1/log	0.33	0	9.08**	73	2.04	12	2.63**	31	1.11	2	4.75**	59
IA2/log	0.13	0	2.48**	34	3.39*	27	3.65**	35	3.91*	36	5.46**	41

* P < .05
** P < .01

%V = percent of variance accounted for
Project = project effects
LA = Linking Agent effects

Key

I1/Log = Proportion of transactions in which superintendents were involved

I2/Log = Proportion of transactions in which curriculum/instruction staff were involved

I3/Log = Proportion of transactions in which other district office staff were involved

I4/Log = Proportion of transactions in which principals were involved

I5/Log = Proportion of transactions in which department heads were involved

I6/Log = Proportion of transactions in which teachers were involved

I7/Log = Proportion of transactions in which aides were involved

I8/Log = Proportion of transactions in which other school staff were involved

I9/Log = Proportion of transactions in which non-district/non-school personnel were involved

E1/Log = Proportion of transactions in which linking agent/facilitators were involved

E2/Log = Proportion of transactions in which project directors/managers were involved

E3/Log = Proportion of transactions in which project evaluators were involved

E4/Log = Proportion of transactions in which project developers/trainers were involved

E5/Log = Proportion of transactions in which project information specialists were involved

E6/Log = Proportion of transactions in which other project staff were involved

E7/Log = Proportion of transactions in which department of education staff were involved

E8/Log = Proportion of transactions in which intermediate service agency staff was involved

E9/Log = Proportion of transactions in which university/college staff were involved

IA1/Log = Proportion of transactions which were initiated by project personnel

IA2/Log = Proportion of transactions which were initiated by site/school personnel

TABLE III (Cont'd)

Transaction Log Variable	Phase 1				Phase 2				Phase 3			
	Project		LA		Project		LA		Project		LA	
	F	%V	F	%V	F	%V	F	%V	F	%V	F	%V
IA3/Log	0.54	0	5.87**	62	6.63**	49	4.42**	28	5.32**	41	2.83**	25
R 1/Log	1.02	0	15.52**	83	5.29**	66	2.78**	13	1.86	15	9.07**	65
R 2/Log	0.49	0	12.43**	80	0.54	0	5.68**	62	2.83	12	0.76	0
R 3/Log	1.65	5	6.62**	63	3.63*	25	2.06*	20	1.49	0	2.57**	40
R 4/Log	0.21	0	9.78**	75	0.62	0	1.17	6	0.44	0	2.57**	40
R 5/Log	0.31	0	4.29**	53	3.59*	13	0.73	0	3.19*	24	2.19	24
D 1/Log	0.69	0	6.15**	64	1.74	8	2.19*	26	0.68	0	4.92**	60
D 2/Log	0.28	0	6.09**	63	5.48**	33	1.61	11	1.07	1	21.90**	89
D 3/Log	3.14*	20	4.31**	43	1.80	10	3.13**	37	3.19*	26	2.86**	31
D 4/Log	0.52	0	8.57**	72	3.18*	11	0.69	0	0.16	0	1.31	10
D 5/Log	2.34	10	1.84*	20	0.65	0	8.23**	71	2.44	17	1.98	23
S 1/Log	1.53	4	6.35**	62	0.80	0	2.77**	38	0.93	0	7.32**	71
S 2/Log	1.73	5	2.63**	34	2.23*	16	3.58**	39	0.43	0	5.81**	65
S 3/Log	1.89	8	5.53**	56	0.80	0	2.18*	29	2.50	26	45.19**	70
S 4/Log	6.38**	41	5.47**	35	7.11**	47	3.09**	22	0.83	0	2.75**	41
S 5/Log	0.04	0	5.61**	61	2.26	16	3.78**	41	0.83	0	4.64**	59
S 6/Log	11.46**	54	3.06**	19	0.50	0	6.33**	64	2.00*	14	3.34**	41
S 7/Log	1.88	6	1.36	9	0.44	0	0.90	0	0.39	0	0.91	0
S 8/Log	0.49	0	3.88**	49	1.04	0	3.40**	46	1.57	11	25.91**	81
S 9/Log	0.63	0	1.78	21	0.62	0	1.20	6	0.50	0	1.63	20
C 1/Log	0.83	0	17.68**	85	0.57	0	2.51**	34	0.26	0	3.13*	45
C 2/Log	0.85	0	4.43**	54	0.97	0	2.20*	29	1.10	1	3.04**	44
C 3/Log	2.35	13	6.24**	55	0.91	0	4.00**	51				
C 4/Log	1.39	2	4.60**	54	3.48*	27	3.37**	32	0.42	0	15.90**	85
C 5/Log	1.76	7	9.38**	69	2.64	13	1.21	6	3.82*	31	2.80**	29
C 6/Log	0.45	0	6.69**	66	1.49	6	3.59**	44	0.76	0	1.75	23
C 7/Log	2.42	13	5.11**	51	0.27	0	4.87**	57	3.74*	23	1.24	7
C 8/Log	0.29	0	4.91**	57	1.20	3	3.26**	42	2.08	12	1.67	18
C 9/Log	0.63	0	4.06**	51	0.30	0	5.43**	61	0.72	0	8.00**	73
C 10/Log	0.47	0	3.82**	49	3.28*	24	2.85**	29	0.27	0	2.17*	31

Key

- IA3/Log = Proportion of transactions which were initiated jointly by project and site/school staff
- R1/Log = Proportion of transactions involving telephone request for information
- R2/Log = Proportion of transactions involving request for information by letter/mail
- R3/Log = Proportion of transactions involving request for project personnel visit to site
- R4/Log = Proportion of transactions involving request for site personnel visit to project
- R5/Log = Proportion of transactions involving request for meeting (off-site, off-project)
- D1/Log = Proportion of transactions involving telephone delivery of information
- D2/Log = Proportion of transactions involving delivery of information by letter/mail
- D3/Log = Proportion of transactions involving delivery of project personnel visit to site
- D4/Log = Proportion of transactions involving delivery of site personnel visit to project
- D5/Log = Proportion of transactions involving delivery of meeting (off-site, off-project)
- S1/Log = Proportion of transactions with stimulating, initiating, or motivating intent
- S2/Log = Proportion of transactions with the intent of providing information
- S3/Log = Proportion of transactions with the intent of problem clarification
- S4/Log = Proportion of transactions with the intent of decision-making
- S5/Log = Proportion of transactions with the intent of planning
- S6/Log = Proportion of transactions with the intent of training or orientation
- S7/Log = Proportion of transactions with the intent of conflict resolution or mediation
- S8/Log = Proportion of transactions with the intent of evaluation
- S9/Log = Proportion of transactions with other intents

- C1/Log = Proportion of transactions that addressed the need for organizational development
- C2/Log = Proportion of transactions that addressed the need for opportunity
- C3/Log = Proportion of transactions that addressed the need for reasons for change effort
- C4/Log = Proportion of transactions that addressed the need for knowledge
- C5/Log = Proportion of transactions that addressed the need for innovation

- C6/Log = Proportion of transactions that addressed the need for material resources
- C7/Log = Proportion of transactions that addressed the need for human resources
- C8/Log = Proportion of transactions that addressed the need for plans
- C9/Log = Proportion of transactions that addressed the need for time
- C10/Log = Proportion of transactions that addressed other needs

TABLE IV

SIGNIFICANCE OF DIFFERENCES IN HOURS EFFORT X CONDITIONS AND SERVICES
BETWEEN PROJECTS AND BETWEEN LINKING AGENTS WITHIN PROJECTS

VARIABLE HOURS X	PHASE 1				PHASE 2				PHASE 3			
	PROJECT		LA		PROJECT		LA		PROJECT		LA	
	F	%V	F	%V	F	%V	F	%V	F	%V	F	%V
S 1/log	0.58	0	2.32*	33	0.33	0	57.60**	96	0.42	0	1.09	3
S 2/log	0.67	0	17.19**	86	0.14	0	1.92	27	0.45	0	18.29**	87
S 3/log	1.15	0	5.92**	64	2.19	14	1.95*	23	0.73	0	0.60	0
S 4/log	5.00**	7	0.22	0	1.85	10	1.90	23	1.86	12	2.33**	29
S 5/log	2.04	9	3.54**	44	1.82	9	1.52	15	0.57	0	20.89**	88
S 6/log	1.75	6	20.69**	83	0.50	0	9.29**	77	2.77	10	0.56	0
S 7/log	0.53	0	1.05	2	1.57	4	0.66	0	0.32	0	0.76	0
S 8/log	1.02	0	1.33	11	2.03	17	7.00**	58	1.38	5	1.48	14
S 9/log	1.10	2	0.48	0	2.02	11	1.18	6	0.47	0	16.51**	85
C 1/log	0.07	0	34.53**	92	0.27	0	1.45	15	1.16	2	1.27	9
C 2/log	1.03	0	6.03**	65	0.96	0	48.40**	95	2.98	30	5.00**	42
C 3/log	1.53	3	17.67**	84	1.97	9	1.00	1	0.78	0		
C 4/log	0.48	0	2.42**	34	0.92	0	1.34	12	0.19	0	1.91	25
C 5/log	1.55	3	0.64	0	0.76	0	1.92	26	1.42	7	3.84**	48
C 6/log	0.45	0	7.98**	72	0.32	0	9.26**	76	0.16	0	1.02	1
C 7/log	1.36	1	2.82**	40	2.03	10	1.14	5	0.68	0	0.72	0
C 8/log	1.77	6	18.02**	81	0.47	0	5.74**	65	0.65	0	23.72**	89
C 9/log	0.00	0	0.00	0	3.39*	9	0.36	0	0.59	0	1.83	24
C 10/log	1.33	2	0.52	0	2.20	17	2.93**	36	0.37	0	3.00**	43

* P < .05

** P < .01

%V = percent of variance accounted for

Key

- S1/Log = Proportion of transactions with stimulating, initiating, or motivating intent
 S2/Log = Proportion of transactions with the intent of providing information
 S3/Log = Proportion of transactions with the intent of problem clarification
 S4/Log = Proportion of transactions with the intent of decision-making
 S5/Log = Proportion of transactions with the intent of planning
 S6/Log = Proportion of transactions with the intent of training or orientation
 S7/Log = Proportion of transactions with the intent of conflict resolution or mediation
 S8/Log = Proportion of transactions with the intent of evaluation
 S9/Log = Proportion of transactions with other intents

- C1/Log = Proportion of transactions that addressed the need for organizational development
 C2/Log = Proportion of transactions that addressed the need for opportunity
 C3/Log = Proportion of transactions that addressed the need for reasons for change effort
 C4/Log = Proportion of transactions that addressed the need for knowledge
 C5/Log = Proportion of transactions that addressed the need for innovation
 C6/Log = Proportion of transactions that addressed the need for material resources
 C7/Log = Proportion of transactions that addressed the need for human resources
 C8/Log = Proportion of transactions that addressed the need for plans
 C9/Log = Proportion of transactions that addressed the need for time
 C10/Log = Proportion of transactions that addressed other needs

Phases

Phase 1 = Problem Identification
 Phase 2 = Solution Search
 Phase 3 = Implementation

LA = Linking Agent effects
 Project = project effects

TABLE V

PERSONNEL, SERVICES, AND CONDITIONS INVOLVED
IN TRANSACTIONS BY PROJECT AND PHASE

Project	Phase	Total I/ Site	Total I/ Log	Total E/ Site	Total E/ Log	I ₁ / Site	I ₁ / Log	I ₂ / Site	I ₂ / Log
4	1	16.5	2.8	7.4	1.3	1.5	0.3	2.3	0.4
	2	5.0	1.5	4.8	1.4	0.1	0.0	1.6	0.5
	3	8.5	2.2	6.0	1.5	0.4	0.1	0.1	0.4
5	1	41.1	4.4	16.3	1.8	0.9	0.1	1.1	0.1
	2	33.0	2.2	37.0	2.5	0.8	0.1	1.3	0.1
	3	13.5	4.5	13.5	4.5	0.0	0.0	0.5	0.2
6	1	10.0	6.3	2.0	1.3	0.4	0.3	0.4	0.3
	2	21.2	2.6	9.4	1.1	0.4	0.0	0.6	0.1
	3	15.0	3.2	5.8	1.2	0.5	0.1	1.0	0.2
7	1	7.2	3.5	2.6	1.3	0.3	0.2	0.9	0.4
	2	7.8	1.9	4.8	1.1	0.2	0.1	1.1	0.3
	3	4.2	1.8	2.7	1.1	1.0	0.4	0.1	0.0
8	1	13.5	6.0	5.2	2.3	0.1	0.0	0.2	0.1
	2	11.9	4.8	5.8	2.3	0.0	0.0	0.4	0.2
	3	2.8	2.8	2.2	2.2	0.0	0.0	0.2	0.2
Average Across Projects	1	17.6	4.6	6.7	1.6	0.6	0.2	1.0	0.3
	2	15.7	2.6	12.3	1.7	0.3	0.0	1.0	0.2
	3	8.8	2.9	6.0	2.1	0.4	0.1	0.7	0.2

Phase

Phase 1 = Problem Identification

Phase 2 = Solution Search

Phase 3 = Implementation

keyTotal I/Site = Average number of times site (internal)
people involved in transactions per siteTotal I/Log = Average number of site (internal) people
involved in transactions per transactionTotal E/Site = Average number of times external personnel
involved in transactions per siteTotal E/Log = Average number of external personnel in-
volved in transactions per transactionI₁/Site = Number of transactions in which super-
intendents were involved per siteI₁/Log = Proportion of transactions in which
superintendents were involvedI₂/Site = Number of transactions in which
curriculum/instruction staff were in-
volved per siteI₂/Log = Proportion of transactions in which
curriculum/instruction staff were
involved

TABLE V (Cont'd)

Project	Phase	I3/ Site	I3/ Log	I4/ Site	I4/ Log	I5/ Site	I5/ Log	I6/ Site	I6/ Log	I7/ Site	I7/ Log	I8/ Site	I8/ Log	I9/ Site	I9/ Log
4	1	2.1	0.4	1.3	0.2	0.4	0.0	1.3	0.2	0.0	0.0	0.2	0.0	0.1	0.0
	2	1.5	0.4	0.3	0.1	0.0	0.0	0.8	0.2	0.0	0.0	0.1	0.0	0.1	0.0
	3	0.8	0.2	1.1	0.3	0.0	0.0	1.0	0.3	0.1	0.0	0.3	0.1	0.1	0.0
5	1	0.0	0.0	5.5	0.5	1.1	0.1	5.7	0.6	0.1	0.0	1.1	0.1	0.0	0.0
	2	0.0	0.0	5.5	0.4	0.8	0.1	6.5	0.4	0.0	0.0	0.3	0.0	0.0	0.0
	3	0.0	0.0	2.0	0.7	0.5	0.2	1.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0
6	1	0.0	0.0	1.2	0.8	0.6	0.4	1.0	0.6	0.2	0.1	0.2	0.1	0.2	0.1
	2	0.8	0.1	4.4	0.5	1.2	0.1	4.4	0.5	0.1	0.0	1.5	0.2	0.2	0.0
	3	0.1	0.0	2.8	0.6	0.7	0.2	1.8	0.4	0.2	0.1	1.0	0.2	0.2	0.0
7	1	0.1	0.0	0.4	0.2	0.1	0.1	1.1	0.5	0.0	0.0	0.4	0.2	0.5	0.3
	2	0.1	0.0	0.8	0.2	0.1	0.0	2.6	0.6	0.0	0.0	0.3	0.1	1.5	0.4
	3	0.2	0.1	0.1	0.0	0.0	0.0	0.6	0.2	0.0	0.0	0.4	0.2	1.7	0.7
8	1	0.8	0.4	2.2	1.0	0.1	0.0	1.5	0.6	0.1	0.1	0.0	0.0	0.5	0.2
	2	0.1	0.0	2.3	0.9	0.0	0.0	1.9	0.8	0.0	0.0	1.3	0.5	0.0	0.0
	3	0.3	0.3	1.0	1.0	0.0	0.0	0.7	0.7	0.0	0.0	0.0	0.0	0.0	0.0
Average Across Projects	1	0.6	0.2	2.1	0.5	0.5	0.1	2.1	0.5	0.1	0.0	0.4	0.1	0.3	0.1
	2	0.5	0.1	2.7	0.4	0.4	0.0	3.2	0.5	0.0	0.0	0.7	0.2	0.4	0.1
	3	0.4	0.1	1.4	0.5	0.2	0.1	1.1	0.4	0.1	0.0	0.5	0.1	0.4	0.1

Phase

Phase 1 = Problem Identification

Phase 2 = Solution Search

Phase 3 = Implementation

Key

I3/Site = Number of transactions in which other district office staff were involved per site

I3/Log = Proportion of transactions in which other district staff were involved

I4/Site = Number of transactions in which principals were involved per site

I4/Log = Proportion of transactions in which principals were involved

I5/Site = Number of transactions in which department heads were involved per site

I5/Log = Proportion of transactions in which department heads were involved

I6/Site = Number of transactions in which teachers were involved per site

I6/Log = Proportion of transactions in which teachers were involved

I7/Site = Number of transactions in which aides were involved per site

I7/Log = Proportion of transactions in which aides were involved

I8/Site = Number of transactions in which other school staff were involved per site

I8/Log = Proportion of transactions in which other school staff were involved

I9/Site = Number of transactions in which non-district/non-school personnel were involved per site

I9/Log = Proportion of transactions in which non-district/non-school personnel were involved

TABLE V (Cont'd)

Project	Phase	E ₁ / Site	E ₁ / Log	E ₂ / Site	E ₂ / Log	E ₃ / Site	E ₃ / Log	E ₄ / Site	E ₄ / Log	E ₅ / Site	E ₅ / Log	E ₆ / Site	E ₆ / Log	E ₇ / Site	E ₇ / Log
4	1	5.7	1.0	0.3	0.1	0.4	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	2	3.4	1.0	0.4	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	3	3.9	1.0	0.3	0.1	0.5	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.0
5	1	9.0	1.0	0.8	0.1	0.8	0.1	2.0	0.2	1.5	0.2	0.3	0.0	0.0	0.0
	2	15.0	1.0	1.0	0.1	1.8	0.1	5.3	0.4	4.3	0.3	0.3	0.0	0.0	0.0
	3	3.0	1.0	0.5	0.2	0.5	0.2	2.0	0.7	3.0	1.0	0.5	0.2	0.0	0.0
6	1	1.6	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	2	7.9	1.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.1	0.0	0.1	0.0
	3	4.6	1.0	0.1	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.2	0.0	0.0	0.0
7	1	1.9	0.9	0.1	0.1	0.1	0.1	0.0	0.0	0.2	0.1	0.0	0.0	0.1	0.0
	2	1.8	0.4	0.1	0.0	0.3	0.1	0.0	0.0	2.4	0.6	0.0	0.0	0.2	0.1
	3	2.1	0.9	0.0	0.0	0.1	0.0	0.0	0.0	0.2	0.1	0.0	0.0	0.0	0.0
8	1	2.1	0.9	0.3	0.1	0.0	0.0	0.3	0.1	0.3	0.1	0.0	0.0	0.3	0.1
	2	2.4	1.0	0.1	0.0	0.0	0.0	0.0	0.0	1.3	0.5	0.1	0.0	0.3	0.1
	3	0.8	0.8	0.0	0.0	0.0	0.0	0.2	0.2	0.0	0.0	0.0	0.0	0.2	0.2
Average Across Projects	1	4.1	1.0	0.3	0.1	0.3	0.1	0.5	0.1	0.4	0.1	0.1	0.0	0.1	0.0
	2	6.1	0.9	0.3	0.0	0.4	0.0	1.1	0.1	1.6	0.3	0.1	0.0	0.1	0.0
	3	2.9	1.0	0.2	0.1	0.2	0.1	0.5	0.2	0.6	0.4	0.2	0.0	0.1	0.0

Phases

Phase 1 = Problem Identification

Phase 2 = Solution Search

Phase 3 = Implementation

KeyE₁/Site = Number of transactions in which linking agents/facilitators were involved per siteE₁/Log = Proportion of transactions in which linking agents/facilitators were involvedE₂/Site = Number of transactions in which project directors/managers were involved per siteE₂/Log = Proportion of transactions in which project directors/managers were involvedE₃/Site = Number of transactions in which project evaluators were involved per siteE₃/Log = Proportion of transactions in which project evaluators were involvedE₄/Site = Number of transactions in which project developers/trainers were involved per siteE₄/Log = Proportion of transactions in which developers/trainers were involvedE₅/Site = Number of transactions in which project information specialists were involved per siteE₅/Log = Proportion of transactions in which project information specialists were involvedE₆/Site = Number of transactions in which other project staff were involved per siteE₆/Log = Proportion of transactions in which other project staff were involvedE₇/Site = Number of transactions in which department of education staff were involved per siteE₇/Log = Proportion of transactions in which department of education staff were involved

TABLE V (Cont'd)

Project	Phase	E ₈ /Site	E ₈ /Log	E ₉ /Site	E ₉ /Log	E ₁₀ /Site	E ₁₀ /Log	S ₁ /** Site	S ₁ /Log	S ₂ /Site	S ₂ /Log	S ₃ /Site	S ₃ /Log	S ₄ /Site	S ₄ /Log
4	1	0.1	0.0	0.2	0.0	0.0	0.0	1.0	0.2	2.5	0.4	0.1	0.0	0.3	0.1
	2	0.3	0.1	0.0	0.0	0.1	0.0	0.1	0.0	1.6	0.5	0.0	0.0	0.4	0.1
	3	0.1	0.0	0.1	0.0	0.1	0.0	0.4	0.1	1.8	0.5	0.0	0.0	0.0	0.0
5	1	0.4	0.0	0.0	0.0	0.0	0.0	0.9	0.1	6.0	0.7	0.8	0.1	0.5	0.1
	2	0.8	0.1	0.3	0.0	0.3	0.0	0.5	0.0	4.3	0.3	3.8	0.3	2.5	0.2
	3	0.5	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.2	0.0	0.0	1.0	0.3
6	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.5	0.6	0.4	0.2	0.1
	2	0.4	0.0	0.0	0.0	0.6	0.1	0.2	0.0	2.4	0.3	0.5	0.1	2.1	0.2
	3	0.0	0.0	0.0	0.0	0.5	0.1	0.0	0.0	1.2	0.3	0.0	0.0	0.1	0.0
7	1	0.0	0.0	0.0	0.0	0.1	0.1	0.7	0.4	0.9	0.5	0.1	0.1	0.0	0.0
	2	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.1	2.3	0.5	0.3	0.1	0.5	0.1
	3	0.0	0.0	0.1	0.1	0.0	0.0	0.2	0.1	0.9	0.4	0.0	0.0	0.0	0.0
8	1	0.2	0.1	0.2	0.1	0.0	0.0	0.5	0.2	0.7	0.3	0.4	0.2	0.1	0.0
	2	0.0	0.0	0.3	0.1	0.3	0.1	0.2	0.1	1.2	0.5	0.2	0.1	0.4	0.2
	3	0.0	0.0	0.5	0.5	0.0	0.0	0.0	0.0	0.5	0.5	0.0	0.0	0.2	0.2
Average Across Projects	1	0.1	0.0	0.1	0.0	0.0	0.0	0.6	0.2	2.2	0.5	0.4	0.2	0.2	0.0
	2	0.3	0.0	0.1	0.0	0.3	0.0	0.2	0.0	2.3	0.4	1.0	0.1	1.2	0.2
	3	0.1	0.0	0.1	0.1	0.1	0.0	0.1	0.0	1.0	0.4	0.0	0.0	0.3	0.1

** NOTE: This data on services and conditions is the number of times per site or per log that the service or condition is ranked as the most important one of the transaction

Key

- E₃/Site = Number of transactions in which intermediate service agency staff were involved per site
- E₃/Log = Proportion of transactions in which intermediate service agency staff were involved
- E₉/Site = Number of transactions in which university/college staff were involved per site
- E₉/Log = Proportion of transactions in which university/college staff were involved
- E₁₀/Site = Number of transactions in which other non-project staff were involved per site
- E₁₀/Log = Proportion of transactions in which other non-project staff were involved

- S₁/Site = Number of transactions with the intent of stimulating, initiating, or motivating per site
- S₁/Log = Proportion of transactions with the intent of stimulating, initiating, or motivating
- S₂/Site = Number of transactions with the intent of providing information per site
- S₂/Log = Proportion of transactions with the intent of providing information
- S₃/Site = Number of transactions with the intent of problem clarification per site
- S₃/Log = Proportion of transactions with the intent of problem clarification
- S₄/Site = Number of transactions with the intent of decision-making per site
- S₄/Log = Proportion of transactions with the intent of decision-making

Phases

Phase 1 = Problem Identification

Phase 2 = Solution Search

Phase 3 = Implementation

Note: The data on services and conditions is derived from the service or condition ranked as the most important one of the transaction

TABLE V (Cont'd)

Project	Phase	S ₅ /Site	S ₅ /Log	S ₆ /Site	S ₆ /Log	S ₇ /Site	S ₇ /Log	S ₈ /Site	S ₈ /Log	S ₉ /Site	S ₉ /Log	IA ₁ /Site	IA ₁ /Log	IA ₂ /Site	IA ₂ /Log
4	1	1.2	0.2	0.1	0.0	0.0	0.0	0.3	0.1	0.2	0.0	3.8	0.7	1.1	0.2
	2	0.1	0.0	0.0	0.0	0.0	0.0	0.8	0.2	0.4	0.1	2.3	0.7	0.9	0.3
	3	1.3	0.3	0.1	0.0	0.0	0.0	0.4	0.1	0.0	0.0	2.5	0.7	0.6	0.1
5	1	1.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.5	0.5	0.7	0.1
	2	3.8	0.3	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	6.5	0.4	1.8	0.1
	3	1.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.5	0.5	0.5	0.2
6	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.4	0.2	0.1
	2	2.4	0.3	0.5	0.1	0.2	0.0	0.0	0.0	0.1	0.0	3.8	0.5	1.3	0.2
	3	1.6	0.3	1.3	0.3	0.1	0.0	0.1	0.0	0.2	0.0	1.9	0.4	0.7	0.2
7	1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	1.2	0.6	0.4	0.2
	2	0.3	0.1	0.3	0.1	0.1	0.0	0.0	0.0	0.1	0.0	1.8	0.4	2.2	0.5
	3	0.5	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.5	0.2	1.2	0.5	1.2	0.5
8	1	0.1	0.0	0.3	0.1	0.0	0.0	0.2	0.1	0.0	0.0	1.5	0.7	0.2	0.1
	2	0.3	0.1	0.0	0.0	0.2	0.1	0.0	0.0	0.0	0.0	0.2	0.1	0.7	0.3
	3	0.2	0.2	0.0	0.0	0.0	0.0	0.2	0.2	0.0	0.0	0.8	0.8	0.0	0.0
Average Across Projects	1	0.5	0.1	0.1	0.0	0.0	0.0	0.1	0.0	0.1	0.0	2.5	0.6	0.5	0.1
	2	1.4	0.2	0.2	0.0	0.2	0.0	0.2	0.0	0.1	0.0	2.9	0.4	1.4	0.3
	3	1.0	0.3	0.3	0.1	0.0	0.0	0.1	0.0	0.1	0.0	1.6	0.6	0.4	0.2

Key

S5/Site = Number of transactions with the intent of planning per site

S5/Log = Proportion of transactions in which the intent was planning

S6/Site = Number of transactions with the intent of training or orientation per site

S6/Log = Proportion of transactions in which the intent was training or orientation

S7/Site = Number of transactions with the intent of conflict resolution or mediation per site

S7/Log = Proportion of transactions with the intent of conflict resolution or mediation

S8/Site = Number of transactions with the intent of evaluation per site

S8/Log = Proportion of transactions in which the intent was evaluation

S9/Site = Number of transactions with other intent per site

S9/Log = Proportion of transactions in which other intent was involved

IA1/Site = Number of transactions initiated by project personnel per site

IA1/Log = Proportion of transactions initiated by project personnel

IA2/Site = Number of transactions initiated by site/school personnel per site

IA2/Log = Proportion of transactions initiated by site/school personnel

Phase

Phase 1 = Problem Identification

Phase 2 = Solution Search

Phase 3 = Implementation

TABLE V (Cont'd)

Project	Phase	D ₁ / Site	D ₁ / Log	D ₂ / Site	D ₂ / Log	D ₃ / Site	D ₃ / Log	D ₄ / Site	D ₄ / Log	D ₅ / Site	D ₅ / Log	C ₁ ** Site	C ₁ / Log	C ₂ / Site	C ₂ / Log
4	1	0.5	0.1	1.0	0.2	2.2	0.4	0.8	0.1	0.3	0.0	0.5	0.1	1.0	0.2
	2	0.3	0.1	0.4	0.1	0.8	0.2	0.3	0.1	0.5	0.1	0.0	0.0	0.3	0.1
	3	0.6	0.2	0.8	0.2	1.3	0.3	0.4	0.1	0.9	0.2	0.1	0.0	0.3	0.1
5	1	1.7	0.2	0.8	0.1	4.5	0.5	0.0	0.0	1.0	0.1	2.0	0.2	0.6	0.1
	2	6.8	0.5	1.0	0.1	3.3	0.2	0.3	0.0	2.3	0.2	2.8	0.2	0.0	0.0
	3	1.0	0.3	0.0	0.0	1.0	0.3	0.0	0.0	1.0	0.3	0.0	0.0	0.5	0.2
6	1	0.2	0.1	0.0	0.0	1.4	0.9	0.0	0.0	0.0	0.0	0.4	0.3	0.4	0.3
	2	3.4	0.4	0.2	0.0	3.2	0.4	0.4	0.0	0.5	0.1	1.1	0.1	0.8	0.1
	3	1.8	0.4	0.3	0.1	2.1	0.5	0.0	0.0	0.2	0.1	0.4	0.1	0.0	0.0
7	1	0.5	0.2	0.3	0.1	0.6	0.3	0.2	0.1	0.2	0.1	0.5	0.3	0.5	0.3
	2	1.6	0.4	1.7	0.4	0.5	0.1	0.1	0.0	0.2	0.0	0.2	0.1	0.0	0.0
	3	0.6	0.2	0.6	0.2	0.2	0.1	0.1	0.1	0.0	0.0	0.3	0.1	0.0	0.0
8	1	0.1	0.0	0.5	0.2	1.0	0.4	0.1	0.0	0.5	0.2	0.4	0.1	0.4	0.1
	2	0.1	0.0	0.5	0.2	1.4	0.6	0.0	0.0	0.4	0.2	0.0	0.0	0.0	0.0
	3	0.0	0.0	0.0	0.0	0.5	0.5	0.2	0.2	0.3	0.3	0.0	0.0	0.0	0.0
Average Across Projects	1	0.6	0.1	0.5	0.1	2.0	0.5	0.2	0.0	0.4	0.1	0.8	0.2	0.6	0.2
	2	2.4	0.3	0.8	0.2	1.8	0.3	0.2	0.0	0.8	0.1	0.8	0.1	0.2	0.0
	3	0.8	0.2	0.3	0.1	1.0	0.3	0.1	0.1	0.5	0.2	0.2	0.0	0.2	0.1

Phase

Phase 1 = Problem Identification

Phase 2 = Solution Search

Phase 3 = Implementation

Key

D1/Site = Number of transactions involving a delivery by telephone per site

D1/Log = Proportion of transactions involving delivery by telephone

D2/Site = Number of transactions involving a delivery by letter/mail per site

D2/Log = Proportion of transactions involving delivery by letter/mail

D3/Site = Number of transactions involving delivery of project personnel visit to site per site

D3/Log = Proportion of transactions involving delivery of project personnel visit to site

D4/Site = Number of transactions involving delivery of site personnel visit to project per site

D4/Log = Proportion of transactions involving delivery of site personnel visit

D5/Site = Number of transactions involving delivery of off-site, off-project meeting per site

D5/Log = Proportion of transactions involving delivery of off-site, off-project meeting

C1/Site = Number of transactions involving need for organizational development per site

C1/Log = Proportion of transactions involving need for organizational development

C2/Site = Number of transactions involving need for opportunity per site

C2/Log = Proportion of transactions involving need for opportunity

TABLE V (Cont'd)

Project	Phase	C3/ Site	C3/ Log	C4/ Site	C4/ Log	C5/ Site	C5/ Log	C6/ Site	C6/ Log	C7/ Site	C7/ Log	C8/ Site	C8/ Log	C9/ Site	C9/ Log	C10/ Site	C10/ Log
4	1	0.6	0.1	1.2	0.2	0.0	0.0	0.5	0.1	0.5	0.1	1.2	0.2	0.0	0.0	0.3	0.1
	2	0.1	0.0	0.6	0.2	0.3	0.1	0.4	0.1	0.3	0.1	0.9	0.3	0.0	0.0	0.6	0.2
	3	0.1	0.0	0.4	0.1	0.5	0.1	0.5	0.1	0.1	0.0	1.8	0.5	0.0	0.0	0.0	0.0
5	1	1.2	0.1	2.5	0.3	0.0	0.0	0.7	0.1	1.4	0.2	0.8	0.1	0.1	0.0	0.0	0.0
	2	4.5	0.3	1.0	0.1	0.0	0.0	2.3	0.2	2.3	0.2	2.3	0.2	0.0	0.0	0.0	0.0
	3	1.5	0.5	0.0	0.0	0.5	0.2	0.0	0.0	0.5	0.2	0.0	0.0	0.0	0.0	0.0	0.0
6	1	0.4	0.3	0.4	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	2	0.3	0.0	1.9	0.2	0.2	0.0	0.9	0.1	0.1	0.0	2.8	0.3	0.2	0.0	0.0	0.0
	3	0.0	0.0	1.0	0.2	0.3	0.1	0.4	0.1	0.3	0.1	2.4	0.5	0.0	0.0	0.0	0.0
7	1	0.0	0.0	0.5	0.3	0.0	0.0	0.1	0.0	0.0	0.0	0.2	0.1	0.0	0.0	0.2	0.1
	2	0.2	0.0	2.4	0.6	0.0	0.0	0.7	0.2	0.0	0.0	0.7	0.2	0.0	0.0	0.0	0.0
	3	0.0	0.0	0.5	0.2	0.0	0.0	0.7	0.3	0.1	0.1	0.5	0.2	0.2	0.1	0.1	0.0
8	1	0.3	0.1	0.5	0.2	0.1	0.0	0.1	0.0	0.2	0.1	0.4	0.2	0.0	0.0	0.0	0.0
	2	0.6	0.2	1.0	0.4	0.2	0.1	0.2	0.1	0.1	0.0	0.4	0.2	0.0	0.0	0.0	0.0
	3	0.0	0.0	0.5	0.5	0.0	0.0	0.0	0.0	0.2	0.2	0.3	0.3	0.0	0.0	0.0	0.0
Average Across Projects	1	0.5	0.1	1.0	0.3	0.0	0.0	0.3	0.0	0.4	0.1	0.5	0.1	0.0	0.0	0.1	0.0
	2	1.1	0.1	1.4	0.3	0.1	0.0	0.9	0.1	0.6	0.1	1.4	0.2	0.0	0.0	0.1	0.0
	3	0.3	0.1	0.5	0.2	0.3	0.1	0.3	0.1	0.2	0.1	1.0	0.3	0.0	0.0	0.0	0.0

Phase

Phase 1 = Problem Identification

Phase 2 = Solution Search

Phase 3 = Implementation

KeyC3/Site = Number of transactions involving need
for reasons for change effort per siteC3/Log = Proportion of transactions involving
need for change effort per siteC4/Site = Number of transactions involving need
for knowledge per siteC4/Log = Proportion of transactions involving
need for knowledgeC5/Site = Number of transactions involving need
for innovation per siteC5/Log = Proportion of transactions involving
need for innovationC6/Site = Number of transactions involving need
for material resources per siteC6/Log = Proportion of transactions involving
need for material resourcesC7/Site = Number of transactions involving need
for human resources per siteC7/Log = Proportion of transactions involving
need for human resourcesC8/Site = Number of transactions involving need
for planning per siteC8/Log = Proportion of transactions involving need for
planningC9/Site = Number of transactions involving need for
time per siteC9/Log = Proportion of transactions involving need
for timeC10/Site = Number of transactions involving other
needs per siteC10/Log = Proportion of transactions involving
other needs

TABLE V (Cont'd)

Project	Phase	IA ₃ /Site	IA ₃ /Log	R ₁ /Site	R ₁ /Log	R ₂ /Site	R ₂ /Log	R ₃ /Site	R ₃ /Log	R ₄ /Site	R ₄ /Log	R ₅ /Site	R ₅ /Log
4	1	0.8	0.1	1.4	0.2	0.5	0.1	0.4	0.1	0.1	0.0	0.2	0.0
	2	0.3	0.1	0.6	0.2	0.6	0.2	0.8	0.2	0.1	0.0	0.1	0.0
	3	0.8	0.2	0.8	0.2	0.8	0.2	0.3	0.1	0.1	0.0	0.6	0.2
5	1	2.6	0.3	3.2	0.3	0.3	0.0	1.6	0.2	0.2	0.0	0.3	0.0
	2	6.3	0.4	12.0	0.8	0.0	0.0	0.3	0.0	0.8	0.1	0.5	0.0
	3	0.5	0.2	2.0	0.7	0.0	0.0	1.0	0.3	0.0	0.0	0.0	0.0
6	1	0.8	0.5	0.4	0.3	0.2	0.1	0.6	0.4	0.0	0.0	0.0	0.0
	2	2.9	0.3	0.8	0.1	0.1	0.0	0.2	0.0	0.1	0.0	0.0	0.0
	3	2.1	0.4	1.6	0.3	0.1	0.0	0.3	0.1	0.0	0.0	0.0	0.0
7	1	0.4	0.2	1.3	0.6	0.3	0.1	0.0	0.0	0.1	0.1	0.0	0.0
	2	0.1	0.0	3.1	0.7	0.8	0.2	0.1	0.0	0.1	0.0	0.0	0.0
	3	0.0	0.0	1.6	0.7	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0
8	1	0.5	0.2	0.5	0.2	0.0	0.0	0.5	0.2	0.1	0.0	0.3	0.1
	2	1.6	0.6	0.3	0.1	0.5	0.3	1.4	0.6	0.0	0.0	0.0	0.0
	3	0.2	0.2	0.0	0.0	0.0	0.0	0.3	0.3	0.0	0.0	0.3	0.3
Average Across Projects	1	1.0	0.4	1.4	0.3	0.3	0.1	0.6	0.2	0.1	0.0	0.2	0.0
	2	2.2	0.3	3.4	0.4	0.4	0.1	0.3	0.2	0.2	0.0	0.1	0.0
	3	0.7	0.2	1.2	0.4	0.2	0.0	0.4	0.2	0.0	0.0	0.2	0.1

Phase

Phase 1 = Problem Identification

Phase 2 = Solution Search

Phase 3 = Implementation

KeyIA₃/Site = Number of transactions initiated jointly (project and site/school staff) per siteIA₃/Log = Proportion of transactions initiated jointlyR₁/Site = Number of transactions that involved a telephone request per siteR₁/Log = Proportion of transactions involving a telephone requestR₂/Site = Number of transactions involving a request by letter/mail per siteR₂/Log = Proportion of transactions involving a letter/mail requestR₃/Site = Number of transactions which requested project personnel visit to site per siteR₃/Log = Proportion of transactions requesting project personnel visit to siteR₄/Site = Number of transactions which requested site personnel visit to project per siteR₄/Log = Proportion of transactions requesting site personnel visit to projectR₅/Site = Number of transactions which requested off-site, off-project meeting per siteR₅/Log = Proportion of transactions requesting off-site, off-project meeting

APPENDIX D

Content Analysis of Problem Identification Reports (PIDs)

Representing the Seven Projects

Problem Identification Reports (PIDs)

(Developed by NIE)

The Problem Identification Report is written by project personnel (e.g., Directors of Evaluation, linking agents and/or linking agent coordinators). The major input sources for the data provided in the PIDs include documentation and records from schools and districts, department of education reports from linking agent contact sheets, project management information systems, and telephone conversations and on-site visits between project personnel and site staff (i.e., specialists, consultants, district staff, and various school groups such as steering committees).

The purpose of the PID is to describe the activities of the site-specific problem identification process (in chronological order), the conditions that the project believes must be addressed if the problem is to be resolved, the services the project proposes to render through the process, and other services that the site might arrange for itself or that will/would be provided through some type of linkage with other organizations.

The content analysis has been an effort to organize the wealth of data provided by the PIDs. Redundancy is apparent in this content analysis since actual responses were followed as closely as possible. This serves to highlight similarities and differences within stated problem areas.

Project 3

Content analysis of Problem Identification Reports
which represent seven sites.

Problem Area: Building on existing Right to Read
programs in order to improve reading instruction.

①

Summary Statement of Problem

Teachers who used the basal had little to indicate to them if the skills being taught were also being mastered. There was also no consistent means by which a teacher could assess what skills a child already had learned. There was no written record of skills mastered or not mastered that followed a child from one grade to another. Teachers who received children from a previous instructor had no way of knowing where that child was.

There is a need for a reading program that will provide instruction in the basic reading skills of comprehension and word recognition so students will enjoy reading and will apply the survival skills that are needed in society.

There is a need to establish and coordinate an articulated reading program, separate from the English courses, which prepares teachers to address remedial, corrective, developmental, and functional reading needs of students.

2

Rationale for Problem Priorities

Sites

With a program of diagnostic/prescriptive teaching, students will be able to demonstrate use of the skills in school-related tasks and life situations	7
With the opportunity to share findings with staff, teachers will develop both short-range/long-range plans to implement a program that will meet the needs of the students	1
Given a choice of library books, students will be motivated to read for enjoyment	2
Keeping a record system, teachers will identify reading skills which have been mastered and will share this information	7
Given existing/new materials, teachers will organize these materials so they may be shared in the instructional program	3
Inservice to acquaint teachers with the innovation	1
How present testing program can be more useful	1
Encourage parents to promote reading through parent education, helping in the school	4
Provide prime time for reading instruction (uninterrupted reading time)	2
Improve teaching strategies that will motivate students	1
Hold workshops with reading consultants with innovative ideas	1
Conduct inservice over a two/three year span/continual assistance/services	3
Code library and supply materials according to reading level and make this information available to teachers	2
Need to coordinate the use of the Wisconsin Design - a reading specialist would assume this task and would serve as a resource for teachers	1
Smaller, more homogeneous groups would be easier to teach and be more conducive for learning	2
Teaching reading as part of a total Language Arts program because there is insufficient time spent on other instructions	1
Locate and review information on total school developmental reading programs	1
Eliminate the replacement of children (duplication of efforts) at the beginning of each school year	2

3

Past Efforts to Solve the Problem

	<u># Sites</u>
Use of standardized tests	2
Introduction of new curriculum	2
Clarification of curricular items	1
Development/revision of reading guide	3
Reorganization/supplementation of reading materials	3
Teacher workshop	2
Money	2
Consultant	1
Record-keeping	1
Addition of new personnel	3
NIE project analysis of present program	2
Response to Title I (resource room)	1

4

Involvement by Role and Task Force Membership

TASK FORCE

	<u># Sites</u>		<u># Sites</u>
Teachers	7	Principal	7
Chairperson		Chairperson	
Participant		Participant	
Information-gathering		Information-gathering	
Recorder			
Parent	6	*District Office Administrator	3
Chairperson		Provided information	
Participant			
Information discussion		*Right-to-Read Coordinator	3
Librarian	5	Participant Kept informed	
Participant		Assistant Superintendent	1
Provide information		Participant	
Specialist		School Board Member	1
Participant		Participant	
Provide information			

OTHERS

<u>Site-related</u>		<u>Project-related</u>	
Right-to-Read Coordinator	4	Linking Agent	7
Release time		Provide direction/leadership	
Moral support		Review task force progress	
Central Office Administrator	3	Orient/train Support/information	
Kept informed		Project Director	3
Building Staff	5	Knowledge Base Personnel	2
School Board	5		
PTO	1	<u>Outside Assistance</u>	
Superintendent	1	Consultants	3

* Sometimes same person

Process

⑤ <u>Major Activities</u> Project Staff Committee Orient district to project Plan task force organization Report site problem identification process	<u>Level of Effort</u> Assistant Superintendent of Curriculum Principal and one teacher from each site Librarian Linking Agent (chairperson)	<u>Time</u> Five meetings of 2-3 hours each
Meeting of All Task Forces Questions/clarification Suggestions of issues Site Task Force Meeting(s) Program assessment Curriculum development	Members of all task forces Project Director Knowledge Base Director Average from 5-8 persons per meeting each site	One half-day meeting
Linker activities/meetings Problem definition Problem-solving workshop Assessment and planning	Meetings with site task force(s) Site visits Principal Project Director Administrators School Board Faculty	
District Meeting Orientation and planning Training to utilize <u>Right-to-Read Assessment and Planning Handbook</u> Developing reading program goals Statement of philosophy	Site principal(s) Right-to-Read coordinator Linking Agent	Three 3-hour meetings
<u>Problem-solving Training and/or Other Management Tools Used</u> <u>Right-to-Read Assessment and Planning Handbook</u> Linker interaction Consultant Linker summary Task force worksheet and minutes		

6

Evidence Examined to Help Define the Problem

	<u># Sites</u>
<u>Right-to-Read Assessment and Planning Handbook</u>	6
Tests	5
ERIC search on tests criterion	1
Four different data-gathering instruments to collect information about classroom practices and inservice needs of teachers	1
Teacher complaints/observations/surveys	5
Student fear syndrome	1
Examination of present program	1
Written records	1
Resources	1
Lack of good programs	1
Examination of general environment	1
Lack of funds (including Title I funds)	1

①

Solution Selection Criteria

	<u># Sites</u>
Coordinator of reading	3
Provides staff development/training (inservice)	7
Oral and written language	1
Provides for development of language arts skills	5
Student motivation	1
Appropriate model for the school (as determined by the task force)	1
Consistent with K-6 guide	3
Fits within facilities, budget, and scheduling	2
Strategies for evaluation of both students/materials	2
Provides for students at all levels of development (remedial, grade level, and exemplary)	3
Given top priority	1
Meets established goals	3
Examines staff competencies	2
Is diagnostic and prescriptive	1
Teaches skills needed in society	2
Encourages enjoyment of reading	2
Has short- and long-range plans	2
Identifies instructional level	1
Related to the 1974 Houghton-Mifflin Reading program	1
Continuous record-keeping	2
Teach reading in the morning	1
Disseminate information	2
Criterion-referenced tests	1
Early diagnosis	1
Student involvement	1
Resource guides	1
Easily articulated to others	1
Fits well into current basal reader	2
Adaptable for small group instruction	1
Provides for coordination of program components	1
Community involvement	1
Bilingual instruction as needed	1
Identification of specific needs and methods in the area of comprehension	1
Developing the skills of the present reading teacher to serve as a resource teacher for other staff members in the area of functional reading	2

8

Major Sources for the Input Data Provided

	<u># Sites</u>
Teacher	1
Linking Agent	7
Principal	1
Project evaluator	2
Project director	2
Consultant	1
Task force	7
Documentation	1
Various internal management systems	5

Project 4

Content analysis of Problem Identification Reports
representing 12 sites.

Problem Area: Basic Skills and Career Development.

①

Summary Statement of Problem

There is a need to establish a coordinated curriculum so that students encounter a clearly sequential series of learning experiences provided by instructors trained in meeting their individual needs.

A secondary problem is to attack the coordination process in such a way that a planning management system will be a by-product.

The problem is a need to individualize instruction for students and provide a continuous progress environment within the classroom and throughout the schools (K-12).

County will seek to infuse career education, K-12, into the total curriculum and at the same time will seek to achieve significant improvement in reading and math.

Must meet the State of Georgia career education standards and current faculty are unable to do this with staff development and a framework for a program.

There is a need to engage in systematic curriculum improvement in the areas of career education, reading, and mathematics which will lead to (1) increased student knowledge re career education concepts and (2) higher student achievement scores in reading and math.

There is a need to establish a feedback system within the system that will keep instructors appraised of student progress. There is a need to coordinate the system curricula in reading, mathematics, and career education. There is a need to establish a staff development program based on system needs.

2

Rationale for Problem Priorities

	<u># Sites</u>
Students dropping more than two stanines from one year to the next	1
Management supportive of teachers personally but did not exhibit the same level of instructional leadership	1
Students fall below national norms in achievement	2
Tests indicate that county is significantly below statewide achievement level	2
Unemployment is high, yet jobs are available	1
Career education questionnaires indicate that students have an inadequate knowledge of career concepts	1

3

Past Efforts to Solve the Problem

	<u># Sites</u>
Recognized the problem, but lacked follow-up	1
Workshop aimed at middle school planning, but movement didn't get off the ground	1
No major efforts/piecemeal efforts	3
Eliminate program gaps and inconsistencies	1
Lack of comprehensive planning	1
Goal-setting	2
Various needs assessments	1
Applications for Title IV funding	1
Implementing career education	1
Course for teachers and visitation	2
Need to utilize results of statewide testing	1
Involved in adoption/adaptation project	1

4

InvolvementSTEERING COMMITTEE/SITE TASK FORCE (6)SITE-RELATED OTHERS

Sites

Assistant Superintendent (chaired)

Federal Funds Coordinator 1

Principal

Identified focus

Identified problem

Curriculum Director 4

Librarians

Identified problem

Vocational supervisor

Superintendent 8

Teachers

Support

Curriculum Director (chaired)

Participant

Student

Identified problem

Requested assistance

Board of Education member

Principal 5

Input

Support

Communication

Participant

Site Administration

Faculty 2

Parents

Participants

(Steering Committee planned for
adoption/adaptation of R&D products.)

PTA 1

PROJECT-RELATED OTHERSOUTSIDE ASSISTANCE

Linking Agent 11

External consultant 1

Meetings on writing planning
grant

Interpreted test results

Consultant

Goal setting

Provided direction

5

Process*

<u>Major Activities</u>	<u>Level of Effort</u>	<u>Time</u>
Orientation meeting at CSRA--CESA	SDE consultants County superintendent	10/76
Planning grant workshop	Assistant Superintendent State Superintendent (facilitated)	11/76
Project review	Linking Agent Superintendents	11/76 - 2 hours
Planning re committee	Linking Agent Coordinator	12/76 - 2 hours
Explained project	Linking Agent Committee Coordinator Principal Teachers Vocational supervisor Counselors Librarian Superintendent Parents Students	12/76 - 1½ hours
Planning, etc.	Linking Agent Committee	Three meetings - 4½ hours
Review/revision of planning grant proposal	Linking Agent Coordinator	2/77 - 1 hour
Explained project	Linking Agent Faculty	Three meetings
Needs Assessment	Committee	2/77 - 2 hours
Planning for career ed workshop	Linking Agent Committee	3/77 - 2 hours

* No set format for process; ranges from one paragraph, to quarterly reports, to the above.

Problem-solving Training and/or Other Management Tools Used

	<u># Sites</u>
No specific problem-solving training and/or management tools used	4
Criteria for Evaluation R&D Products to Determine Fit With Adopting Schools	1

6

Evidence Examined to Help Define the Problem

	<u># Sites</u>
Needs assessment	2
Tests	7
Teacher observations	4
Reports	1
Informal data (newspapers)	1
Formal data: Department of Education reports	1
Right-to-Read	
Vocational program	
Economic factors	1
Bohem-Slater (insufficient curriculum, expertise, etc.)	1
Stated concerns of students, parents, and teachers	1
Comparisons with other schools	1

⑦

Solution Selection Criteria

	<u># Sites</u>
Provides for coordination of system curricula	1
Identifies program gaps and weaknesses	1
Provides for teacher training to permit treatment of the identified gaps and weaknesses	1
Provides student information so progress can be maintained	1
Identifies a core curriculum to assist in determining rates of progress	1
Provides for students' continuous progress and the individualized instruction approach	1
Will be supported by the faculty	1
Is within the system's financial ability	3
Product adopted/adapted must complement available and current materials	2
Must have support of administration	1
Provides for staff development	2
Provides for goals and objectives	1
Reasonable time frame	1
Must address itself to the students and faculties	1

Major Sources for the Input Data Provided

Principals

Teachers

Curriculum Director

Linking Agent

University Curriculum & Supervision Department

University Language Education Department

Community members

Superintendent

Federal funds coordinator

Project manager

Counselor

Observations

Visits

Project proposal

Minutes of Steering Committee

Interviews

Documents

Project 5

Content analysis of Problem Identification Report
representing two sites.

Problem Area: Improve performance of students in
basic reading and mathematics skills.

①

Summary Statement of Problem

The major problem is that students are underachieving in Language Arts/Reading. There is no diagnostic information on students available to the teachers. Students come to the school below expected levels and the situation gets worse as they move through the program. The Language Arts/Reading staff aren't prepared to cope with the problem at this time.

A major problem at the school is the need for teachers to learn how to manage instruction in mathematics so student achievement and interest will increase. Improvement techniques for using the available mathematics materials is also needed to provide practical application of math concepts.

②

Rationale for Problem Priorities

	<u># Sites</u>
Teachers do not make use of available materials and manipulatives are not used adequately	1
Students not trained in self-management	1
Students falling behind in movement from grade to grade	1

③

Past Efforts to Solve the Problem

Not much, but:

Tried several different time scheduling schemes

Some collection of math materials

Committee worked on goals, but have not yet been adopted

4

Involvement by Role

LAT

Language Arts Staff

Principal

Provided feedback

Teachers

Coordinated

Participated

Guidance Person

District Curriculum Person

Advised

Community Person

LRDC Person

Analysis of math series

RISE person

Provided feedback to PSIP

SAT

RBS Person

Leader for PID sessions

Developed materials for sessions

LRDC Person

Site historian

LRDC Person

Analysis of math series

RISE Person

Provided feedback to PSIP

Others (RBS, LRDC, PDE)

When needed, provided expertise in data collection and analyses

Linking Agent: coordinate all activities
follow-up visits
community link between SAT and LAT

PSIP Evaluator: reading expert
on-site evaluation
developed appropriate instrumentation

Outside Assistance: none

KEY

LAT = Local Action Team

SAT = School Assistance Team

LRDC = Learning Research and Development Center

RISE = Research and Information Services for Education

PSIP = Pennsylvania School Improvement Program

RBS = Research for Better Schools

PDE = Pennsylvania Department of Education

5

Process:

<u>Major Activities</u>	<u>Level of Effort</u>	<u>Time</u>
	<u>Presented by:</u>	<u>Attended by site:</u>
Site Orientation	SAT 6 SAT members 1 Linking Agent	35 staff members
Pulse Visit	2 IU Linking Agents	Classroom on-site visits
Collect information on classroom instruction	2 RISE persons 2 LRDC persons 2 PSIP evaluators	2 days
Introduction to Needs Identification	2 RBS persons (leader) 1 IU Linking Agent	LAT members
Formal workshop session	3 SAT members 1 LRDC person 1 RISE person 1 PSIP evaluator	7 teachers 2 principals 1 guidance counselor
Student Needs Analysis	3 RBS persons 3 PSIP evaluators	18 LAT members
Three major events:	5 IU Linking Agents	9 teachers
Workshop	2 LRDC persons	1 principal
Data development	8 SAT members	1 district curriculum coordinator
Data analysis, etc.		
Program Analysis	18 SAT members	21 LAT members
Workshop, data collection, and analysis	5 RBS persons 3 LRDC persons 4 IU Linking Agents 1 PSIP evaluator	3 teachers 1 principal 1 district curriculum coordinator

Problem-solving Training and/or Other Management Tools Used

Research Utilizing Problem-Solving Process (Far West Laboratory product)	2
LRDC (Cooley-Lohnes) Model of Classroom Processes	2
Curriculum and Instruction--Planning Improvement (Research for Better Schools product)	2
LRDC (PIC model) Intrinsic Analysis Process	1

6

Evidence Examined to Help Define the Problem

	<u># Sites</u>
Standardized tests	2
School data	2
Teacher surveys, observations	1

7

Solution Selection Criteria

Validity and quality - outcome should have evidence of validity

Realistic in terms of practical constraints that exist

Related to student needs

Materials should have appropriate levels, variety, flexibility, and also be appropriate for the type of student population involved

Teacher training component is necessary

Allowances must be built in for teacher creativity

Diagnostic procedures must be included

Must be developmental with definite sequential steps

Any record-keeping required must be manageable without a teacher's aide

Will be developed during next phase

8

Major Sources for the Input Data Provided

IU Linker	PSIP management information system
SAT reports	School and student data
Evaluator on-site visits	PDE records
Interviews	Linker summaries
PSIP logs	

Project 6

Content analysis of Problem Identification Report
representing 21 sites.

Problem Area: Basic skills in reading.

Summary Statement of Problem

①

The basic problem is a lack of a consistent, coherent reading program K-6. Many different reading materials are in use and the communication problems of a rural district intensify the need for coordination. Students, teachers, and parents are all affected. Students need to master skills at their own rate of progress. Teachers need additional skills, materials to better teach reading, and support for their individual teaching styles. Parents need an understanding of how their children learn and how they progress in the schools.

There is a lack of (1) consistent reading skill requirements at specific grade levels, K-6, and (2) a specific means of assessment. Our goal is to implement an efficient management system. Lack of skill requirements and a means of assessment results in students reading more poorly--or at best making less progress than they would make if they were properly managed. Teachers become frustrated with the lack of communication and sharing of information--thus, reducing their effectiveness.

Students reading below grade level: test results indicate that a significant number of children are reading below grade level, particularly in the 7th grade.

There are problems in the areas of management, materials, and evaluation.

The problem is that no system for recording the achievements of students in reading and transferring that information to new teachers as a student moves from grade to grade exists. Students are most affected by this problem. They are losing considerable time at the beginning of each year while reassessment is made of their skills. The goal for improvement is the installation of a workable management record-keeping system with appropriate training for the teachers in the school and a means to train new teachers as they come on board.

Students lack motivation, have poor comprehension skills, and exhibit frustration with content area reading requirements. All students K-6 are affected, but the problem is most severe at the upper grade levels. There is a large percentage of bilingual students and a lack of home reading and knowledge of English language usage.

Students have very low reading scores. They are disadvantaged by this problem in their ability to move on to higher grades and by the attendant problems of low self-esteem and poor performance.

The school suffers from fragmentation of reading programs, non-consistent teaching systems, and no transfer of adequate information from level to level. As a result, students are performing below their capabilities and at the bottom of the district in test scores. A program is required which is total in scope or capable of being incorporated with ancillary programs to provide total teaching systems in the area of reading.

The problem is related to students having insufficient reading skills to enable them to function adequately in the school program. The problem appears to stem from lacks in both the home and the school. While a willingness to help exists, both groups (parents and teachers) appear to want and need more skills in order to help students succeed in reading. We need to find a way of helping teachers and parents acquire the skills appropriate for their role.

There is a lack of supplementary enrichment materials and a lack of opportunities (due to professional and geographic isolation) for professional staff to develop or improve their skills in the teaching of reading.

The problem is one of achievement in reading as measured by test scores; 22.5% of the children in grades 8 and 9 are affected and are reading more than one year below their grade average. The problem is caused by students with serious reading problems moving into the district from an inner city. The goal for improvement is that children in 8th or 9th grade will read at or above their grade average.

Many students are not achieving their full potential in reading. Both teachers and parents have expressed concerns regarding: (1) how to improve self-concepts of students, teachers, and parents; (2) how to reconcile conflicting value systems between home and school; (3) how to motivate children; and (4) how to obtain information and training in various methods and techniques that might be helpful.

There is a lack of continuity in the language arts curriculum, grades 1-6. All students are affected as is reflected by test scores lower than they should be (in writing and punctuation as well as reading) and poor use of language skills in other content areas. Teachers feel frustrated with frequent curriculum changes and experience difficulty in responding to individual students.

Reading scores at all grade levels, while not extremely low, are not commensurate with anticipated ability levels, especially as measured by the California Achievement Tests. Although tested only at grades 4 and 6, these have implications over a three-year period for all grades. Students' comprehension skills could be improved so that they better understand and are able to react to what they read in all areas, including other subject matter and reading for enjoyment. Teachers feel a need to manage time better in the classroom so that they can more effectively teach all students. This means they need a better way to assess students' strengths and weaknesses, to group for instruction, and to keep track of student progress.

Parent involvement--the staff and administration is committed to the concept that improved reading will result from supplementary programs PLUS the involvement of parents in the educational process of their children. Staff development--staff has not received much in the way of opportunities for development of their skills, recognized their need for it, and are determined that any program selected provide extensive inservice training. Individualized attention for children--staff have observed the effects of grouped instruction and will select a program that is tailored to individuals.

The Linking Agent specified the problem as one of parochialism in and fear of change. Teachers and staff identified their basic problem as one of insufficient communication and skills.

Teachers need skill development in the teaching of reading, in management, and in record keeping.

The primary problem is one of poor student performance in the area of reading, and a lack of teacher skills in the teaching of reading, especially in the vocational skills areas. At the other two schools, the problem is a lack of teacher skills in teaching reading--thus suggesting a need for skill development.

Students are not reading up to their level. Teachers lack the skills to improve this performance without additional training or skill development in the teaching of reading. The systems in place in the school do not mesh with the staff's perceptions of how they would like to teach or organize their classrooms.

The problem is one of poor student achievement and slipping test scores as students move from grade to grade. The cause is seen as a lack of teacher skills and understaffing. The children are affected by demonstrating poor performance which indicates that later problems will intensify. Teachers are affected by increased pressure to improve their skills and reverse the trend of slipping student scores.

2

Rationale for Problem Priorities

	<u># Sites</u>
Rationale is based on teacher experience and agreement reached by them as to their needs for improvement	1
Teachers feel the need for better ways to assess students in order to provide needed remediation	8
Continuity of program does not exist	4
Teachers find techniques difficult to specify	1
Teachers observe low motivation	4
Low test scores	1
Teacher training	1
No community involvement	1
Students vary widely in abilities	1
Lack of materials	3
Students can't follow directions, express themselves, get main idea, concept	2

Past Efforts to Solve the Problem

	<u># Sites</u>
Title I development	1
Study under way to relieve pressure of the problem	1
Less discipline problems due to new school administration	1
Improving school systems reading programs	1
School Department reading specialist surveyed current materials and methods	1
Development of continuous record-keeping system	1
Skills development approach in curriculum	1
Adopted variation on Wisconsin Design	1
Hired Director of Language Arts	1
Purchased latest version of Houghton-Mifflin reading series	1
Participation in Right-to-Read program	1
Used Curriculum Development Model	1
Purchased new/supplemental materials	2
Teachers continuing their education on individual level	1
Planning staff development	1
Remedial programs instituted	1
Feeble attempt to adopt Fountain Valley	1
Approved department heads, intended for total staff involvement	1
Added two part-time tutors	1
Reading consultant attempted to work closely with staff	1
Intention of improving one grade per year	1

InvolvementDECISION-MAKING GROUP/TEAM (12)

Linking Agent

Prime movers

Headmaster(s)/Principal(s)

Prime movers

Superintendent

Teachers

Bilingual Specialist

Disabilities Specialist

System Language Art Specialist

District Reading Director

Primary responsibility

Some Functions of the Group:

Building evidence for remediation

Suggestions for solution

Ultimate presentation to staff

Establishment of goals

Communication

Providing information/data/materials, etc.

PROJECT-RELATEDTotal Language Arts
department staff and
later Steering Committee

Advisory Council

Minnesota Consortium
Director

Teacher Center staff

Process

<u>Major Activities</u>	<u>Level of Effort</u>	<u>Time</u>
Initial Contact	District/Linking Agent	September - beginning of school or shortly thereafter
Participation/Probable Outcomes	Linking Agent/Principals District Reading Coordinator	
Decisionmaking Process/ Selection of Decision-Making Group	Principal Linking Agent	
Problem-Solving Session	Parents Students Aides Principal Linking Agent	Two months later
Other sessions every two weeks	Linking Agent Decision-Making Group	
Report-out phase - completed problem identification	Linking Agent Decision-Making Group	Two months later

6

Evidence Examined to Help Define the Problem

	<u># Sites</u>
Teacher reporting/surveys/observations	10
Parent surveys	1
Interviews	10
Student data	1
Title I data	5
LEA data	1
Tests	11
Bilingual data	1
Examination of High Intensity Learning Systems	1
Student assessment	3
RBS Inventory	3
Right-to-Read evaluation	1
Reviews of student reading folder	1
T1 Questionnaire	3
Linking Agent/Director judgment	2
School psychologist's data	1

①

Solution Selection Criteria

	<u># Sites</u>
Program that provides training for teachers in reading skills	8
Program with content appropriate for students' interest level; also high interest, low vocabulary	4
Emphasis on developing and strengthening positive student attitudes about learning	8
Emphasis on comprehension and language skills	5
Program that can be implemented by the classroom teacher as well as compatible with present content area material	3
Help teachers develop motivational strategies	1
Allow for individual strengths and approaches	1
Have consistent approach for teaching phonics	1
Pre- and post-testing for mastery	3
Total teacher interaction	2
Incorporate varying philosophic viewpoints	1
System coordinating between/within classes as well as with special reading programs	7
Accurate diagnosis of problems and appropriate instruction	8
Parent involvement	4
Suitable for use in many content areas	2
Involvement of many teachers and specialists	2
Home/school partnership component	1
Release time	1
Enrichment experiences	1
Feedback system	1
Individualized student attention	8
Criteria not developed	7
Record-keeping/management system	6
Ease of use/practical	5
Provide for the full range of teaching modalities represented in the Linking Agent faculty and the learning modalities represented in the target student group	1
Be economically feasible to initiate and maintain	1
Through research be proven most effective when compared to all other reading programs of its type	1
Contain high-interest materials and activities suitable for 7th, 8th, and 9th grade students	1
Be compatible with the District Skills Inventory	1
Must be a specific program (e.g., K-6, high school)	4

Major Sources for the Input Data Provided

	<u>#Sites</u>
Contact reports/proposal from Linking Agents	20
Decision-making team (DMT) minutes of meetings	3
Summaries of progress developed by principal	1
Test results	5
Staff interviews/surveys	15
Information from EXCHANGE staff	1
Teachers	9
T1 Questionnaire	6
Site's problem statement	2
Headmaster/principal	6
Superintendent	2
Reading specialist	3
Title I needs assessment	2
Consortium Central Staff	1
Administrators	3
Students records	1
School documents	2
District personnel	1

Project 7

Content analysis of Problem Identification Reports
which represent 12 sites.

Problem Area: Improve teaching of the basic skills
in science, mathematics, reading, language arts, reason-
ing and problem-solving.

Summary Statement of Problem

To prepare the staff (160) to participate in the development of a competency-based education program described in the state department of education's Project 81.

Identifying and understanding the effects of bilingualism, dialect, and racial (cultural) value systems on children; diagnosing and remedying learning problems of children with various cultural backgrounds and developing their listening and comprehension skills; and helping children develop a good self-concept and an awareness and understanding of other cultures.

To obtain information regarding organization and instructional techniques in the open space school.

Reading in the content areas for students in the junior high school who come unable to deal with the reading of the textbooks. They lack the skills of comprehension needed for reading in science, social studies, math, and other content areas. Classroom teachers must deal with the problem because there is a lack of reading specialists.

Two problems: (1) select R&D products which will assist teachers in setting up and using learning centers in a way to encourage student independent learning activities; and (2) to search for a usable behavior modification program that will be useful within the particular structure of this school in a way that will be effective in aiding students and staff in solving classroom management problems.

The total school faculty (107) will select R&D products related to "How Students Learn" and organize a year-long inservice activity. Such topics as motivation, aptitudes, attitudes, learning styles, reinforcement, etc., are of concern. The learnings will be used in a long-range project, a system-wide curriculum development effort, and also to help in efforts to individualize instruction.

To study the research and, based on this, develop a regional program for the gifted, grades K-12; and to investigate and improve the individualization of instruction, with special attention to the middle school level.

"Ways students learn" was selected as the problem focus. Teachers felt that if they knew more about this subject, they could apply the knowledge in ways to overcome student apathy, lack of student involvement and self-direction, discipline problems, and the like. Also, teachers could better develop materials and plan activities in line with student needs, abilities, and interests. This would lead to higher student achievement, which is particularly needed in reading.

The problem identified for study was to offer on a volunteer basis to teachers a logical, realistic, articulated inservice training program of 8-10 sessions. It was hoped that this would aid teachers of grades 7 and 8 in the teaching of reading by building up their confidence in their own ability and enabling them to do a satisfactory job.

Due to the insufficient time that teachers have for tutoring students having difficulty in algebra and geometry, it was felt that a program was necessary to assist doing this. The method decided upon was one that involved computer instruction based on each of the sections as outlined in the algebra and geometry textbooks. The mathematics faculty agreed on this idea; however, the problem arose that only one member of the department was familiar with the hardware related to the computer. The teachers, therefore, hoped to receive inservice education that would enable them to competently run the computer terminals and write programs to be used on the computer to assist students with instruction.

Better organization of classrooms to make more effective use of teaching time: teachers working on this problem wish to learn effective planning methods, teaching techniques, and use of materials so that students can work independently on learning activities related to their own ability and interest, providing time for the teacher to work with other individuals or groups of students.

Parental involvement: the partnership aspect of education is disappearing; there is little communication between home and school, too little participation in parent-teacher conferences, and only a few parents know what they can do to aid their child's learning. Teachers are interested in exploring ways to revitalize the lines of communication and enlist the parents' participation in the education of their children.

Understanding and teaching math concepts: there is a need to locate materials which can be used in the new Unified Math program in the high school and also plan monthly inservice workshops to offer teachers creative and innovative ideas for pupil motivation and involvement.

Developing better oral and written communication skills in all subject areas: students are deficient in communication skills; there is a need to develop a curriculum for a one semester speech course at the junior high school level.

Teaching reading in the content areas: there is a need for materials and activities to improve perceptual and comprehension skills in content areas.

Improving student motivation: there is a need to explore ways teachers can be more supportive of student efforts (use of praise, etc.) and ways students can be encouraged to take more responsibility for and interest in their own learning; also needed are ideas and activities for presenting subject matter in ways that will increase student interest and involvement.

Math: test scores show students below expectations in computational skills; need to supplement modern math texts which are concept-oriented with materials to develop skills.

Reading: the diagnosis of problems has been emphasized more than the prescription of efforts to overcome weakness; there has been a failure to provide information on materials available for use.

Individualizing instruction: a necessary element in the improvement of student motivation and for improving teaching/learning effectiveness; pressure has increased for attention to meeting the unique needs of each student--in vocational education, special education, education of the gifted, etc.

2

Rationale for Problem Priorities

sites

Student motivation/interest	1
Teachers feel needed assistance to develop learning environments conducive to student independent learning activities	1
No local written guides (for curriculum design)	1
Individualized instruction	3
Learn new management skills	1
Better scheduling and management of time by evaluating and/or changing existing patterns or organization	1
Keep abreast of available instructional materials as they relate to local curriculum	2
Difficult to teach subject matter if students cannot read at level of materials	1

3

Past Efforts to Solve the Problem

"Patching," not providing solution

District/site has computer/terminals but no teacher training provided on use

Pilot project by twelve 6th-grade teachers who used Random House, Houghton-Mifflin, and various supplementary materials

Under new administration, attitudes are changing with efforts toward improvement

Some faculty had dealt briefly with inservice activities

Visit arranged with learning centers

Adoption of IGE

Development of learning by objective packets for junior and senior high use

Inservice days in the fall at the opening of school

Brief staff orientation

ESAA has provided some funds for materials and consultants

④

Involvement by Role and Task Force Membership

Local Education Association (President)	Helped prepare and circulate needs assessment questionnaire Established organ framework Selected site Selected leadership personnel	3
District Administrators	(See above)	
State Facilitators	Project orientation and pro- cess training	10
Faculty	Responded to needs assess- ment questionnaire	7
School Administration	Problem area survey data collection	1
R&D Advisory Committee	Problem identification	2
State Facilitators	Met with Advisory Committee in reference to problem identification	1
Site Contact and Docu- mentarian	Developed and aired TV pro- gram to the faculty (ex- planation of project and ten identified critical inservice areas)	1
Superintendent	Supported project Selected site Selected leadership personnel	2
Inservice Advisory Committee	Plan and oversee project	7
Central Office Staff	Selected site for project	
Teachers' Association Staff	Identified inservice concerns	
School Staff	Conducted needs assessment Determined problem for study	
Principal/Staff	Identified areas of need Worked on professional develop- ment Selected math department	1
College Personnel	Consultants (PID)	1
Project 81 Coordinator	Problem identification	1
No outside assistance		1

5

Process

<u>Major Activities</u>	<u>Level of Effort</u>	<u>Time</u>
Selection		One month - completed 4/25/77
Identify site	Superintendent	
Identify department within site	Principal	
Orientation/Training Sessions	Facilitators Teachers President of local teachers' association	January 1977 - June 1977
Needs Assessment	Project 81 coordinator	33 hours
Problem Identification	Department faculty	4 hours total time
Selection of Inservice Advisory Council/Committee	Director of instruction Teachers	
Conducted staff survey of inservice needs	Leaders Documentarians Participants	
Selected two most salient problems	Superintendent	
Developed criteria	Administrators	
Planning and development		
Collection of Survey Instruments	Administration	

6

Evidence Examined to Help Define the Problem# sites

Needs assessment results	7
Tests	2
Teacher opinions/observations/surveys	7
Administrator observations	1
School system objectives	1
Task force report	1
Student behavior	1
Referral information	1
Teacher needs	1
Project 81	1

⑦

Solution Selection Criteria

	<u># sites</u>
Needs Assessment attachment	3
No criteria established	4
Consider the degree to which products relate to the identified problem	1
Look at only those possibilities within financial means	1
Consider possibilities which would be agreeable to teachers as far as the time element involved and instructional style	2
Identification of needs questionnaire (results)	1
Materials which would help teachers overcome the reading problem of students in subject matter areas	1
Teach subject in spite of the reading problem	1
Concerned with all students' most urgent problem	2
No other expertise was available	1
Wider variety of materials to use individually as well as in large groups	1
Purchase rather than rent materials	1
Materials within budget	2
Usefulness of products re the problem	1

8

Major Sources for the Input Data Provided

	<u># sites</u>
Assistant Superintendent for Curriculum and Instruction	2
Assistant Director of Government Programs	2
State Facilitators (two)	8
Process Documentation Logs	9
Interviews	7
Site demographic forms	3
Site Documentarian	2
Correspondence	2
Tl survey of principle contact	10
Guidance counselor	1
Teacher	2
Others not specified	7

Project 8

Content analysis of Problem Identification Reports
representing 16 sites.

Problem Area: Basic Skills.

①

Summary Statement of Problem

The staff is concerned with discipline motivation problems which are affecting student development in the basic areas. Because of the large percentage of teacher time spent controlling disruptive behavior, no new classroom management techniques to utilize, and limited materials, the students are not progressing.

The major problems identified were: (1) following directions, (2) working individually and developing good study habits, (3) listening for information, and (4) reading comprehension skills.

The problem is to develop teacher skill and competence in diagnostic and prescriptive means of maximizing the development of students in language development, especially reading and in mathematics skills.

The faculty has indicated their first preference as having enrichment activities as the most desired means to help students overcome achievement deficiencies; the problem itself focuses on the cultural deprivation in the home, community, and school as contributing to that deficiency, more than do the technical reading programs which presently exist in the school.

In trying to meet the needs of all children, the staff has identified a special group of students with which they would like assistance. These students are not achieving in the regular classroom. They have been referred to student services, been tested for several special programs (including Title I), but do not qualify.

Many students enter school with low levels of skill in those abilities related to language and reading. A program is needed that will make possible the initial screening of children, diagnosis of weak skills, and remediation procedures. Inservice education of teachers is required in such a program.

There is limited exposure to the arts, and few cultural activities are attended each year. The goal is to train teachers and develop a Fine Arts curriculum which can be used by all the teachers regardless of skill level to meet minimum objectives in Fine Arts which may correlate to the basics.

The school identified several problems such as low reading achievement test scores, a lack of motivation on the part of students, and inability to follow directions. However, it was felt by the majority of the staff that the major problem was an inability to or an unwillingness on the part of students to listen carefully. What is needed by the school is a method of assuring that students will listen carefully.

Each of the three schools is committed to alternative education. The problem is that there are three campuses supervised by the same director philosophies, and goals. Therefore, the campuses will first need to work on inter- and intra-campus communication so that they can begin to work together in getting volunteer students. Next, each school will need to develop a plan for effectively implementing its alternative program based on the overall school goals.

The solution to the problem is to provide a means of improving instruction and pupil growth in mathematics skill and metric measurement in grades 3 and 5.

Rationale for Problem Priorities

	<u># sites</u>
Students are not learning because their materials do not meet their needs	3
Teachers can't help the students until they diagnose the cause	2
Teachers don't think they are capable of diagnosing and prescribing effectively	2
Students are influenced by their peers' off-task behavior	1
State-mandated programs in testing and accountability	3
Parent education	3
Start with kindergarten and work a whole program, grade by grade/continuity	3
Lack of commitment to the present program	1
Question of appropriateness of teaching reading in a rural school when most students are educationally and experientially disadvantaged	3
Lack of time to teach effectively	3
Lack of an adequate strategy for instruction	1
Individualization and personalization of the instruction of students	4
Low self-concept of students and teachers	1
Provide specialized teachers from the county or community along with materials	1
Resource people for assemblies and provision of appropriate stage	1
Carpet rooms and corridors	1
No county supervisors in areas of social studies or science	1
Little exchange of good teaching techniques	1
No more than three reading groups per teacher	1
Need for research in area of improving student attention span	1
Better intra-communication so that the philosophy and goals of the site complex is perpetuated by all three schools	1
Coordinate policies and procedures	1
Need for research on alternative programs	1
Design for teacher training	4
Better method of soliciting volunteer students	1
Integrate fine arts program into regular curriculum	1
A program which can be adapted to the middle and senior high school curriculums	1
A means to effectively evaluate	2
Identification of programs compatible in the same school	1
A implementable definition of "open education"	1
Improved math program to include placement and proficiency tests	1
Industrial Arts type program for boys and girls	1
Time-out room--a method for removing or handling and remediating disruptive children	8
Early identification of student disabilities with follow-up	2
School newspaper--to provide school-wide communication and school pride	1
Library of teacher exchange--a collection of teacher ideas and resources	1
Additional materials for children who are not in special programs, but need additional support	2
Art consultants and materials	1
Better communication and personal relationships	4
Develop better oral/listening skills and language arts skills	3
Math and science curriculums comparable to SCORE (a county-wide management system in Language Arts)	1
See Summary Statement	3

3

Past Efforts to Solve the Problem

Some efforts attempted but not successful

TEC has held workshops

Title 1 funds have helped some

Efforts limited to individual teachers

Some county funds made available

New pre-test, added curriculum coordinator

Three hours/day required in language arts.

Tried variety of teaching methods

Incentive system for kids--little success

Therapist and aides

Involvement

Coordinating Committee/Task Force (4)	Participants in problem identification; wrote problem statement
Principal - chief facilitator	
School Facilitators	
School Instructional Council (2)	Made recommendations to facilitators
Principal	
Representatives of all grade levels	
School Advisory Committee (1)	Participants
PTO	Supportive
TEC Linker (10)	Assisted in problem statement
TEC Coordinator (2)	
County Linker/staff (6)	Assisted in PID report,
University Linker	Training
NIE Facilitators	Analyzed reading program
District Representatives	
PAEC Linkers	
Other	
Teachers/faculty/staff (10)	Identification phase
	Problem analysis
	Leadership
Principals (7)	Leadership
	Identified problem
LEA	Recommended site
	Provided testing program
Curriculum consultant/coordinator (3)	Leadership
Outside Assistance	
Diffusion Training Unit (5)	
Professor, Florida Atlantic University (2)	
Professor, University of Florida (2)	

5

Process

<u>Major Activities</u>	<u>Level of Effort</u>		<u>Time</u>
	<u>Site Personnel:</u>	<u>Project Personnel:</u>	
Orientation meeting - September 17	Site principal Director of Curriculum and staff Associate Superintendent Faculty	Assistant Director of Teacher Education	1 hour
Project goals presented at site	Total faculty	Linking Agent	
Two meetings concerning problem identification	Teachers/faculty County supervisor	Linking Agent	
Workshops	Facilitators Principal		
Review of project goals	Teachers	Linking Agent	
Workshop retreat	Teachers	TE Center	
Review of problems	Faculty Principal	Assistant Project Director Assistant Director of Teacher Education	
Training conference - October 5-6	Facilitator		
Training - January 17-21	Facilitator		

Problem-solving Training and/or Other Management Tools Used

Training and Diffusion Unit	1	Blakes Grid	3
Group Processes	6	Force Field Analysis	4
Rups problem-solving model	8	Communication Skills	4
Consensus-building plan	11	Informal diagnostic techniques	1
Bolman Model	11	Organizing a linkage model	4
Team-building	3	The influence system	3
School as Social System	5	Communication network	5
Management theories	3	Prioritizing Goals	4
LIFO	3		

6

Evidence Examined to Help Define the Problem# sites

Professional teachers observations/surveys/judgment	16
Standardized tests	12
Teacher-made tests	2
Individual data collected on individual students	1
Student records	1
Students non-responsive to special services	1
Disruptive behavior	1
Complaints from teachers	1
Parent/community concern	4
diversified student population	1
Title 1 eligibility	1
Economic survey	1
Health status of students	1
Other reports	1

⑦

Solution Selection Criteria

sites

Sound philosophical and psychological base	3
Must not be in violation of laws or regulations concerning discrimination	2
Adoptable/adaptable	3
Require additional teacher training/materials/equipment	11
Sound evaluation of effectiveness	7
No changes in physical arrangement	2
Should not involve additional personnel	2
Should not involve additional time/money of present personnel	6
Open court reading program	
Need additional funds	2
Intensive phonics method	
Actively involve each student	
Total language arts approach	4
Consistent program from grade to grade	3
Good student literature	2
Individualized approach	3
Appropriate for varying student abilities	
Strive toward specific goals and changes	
Diagnostic and prescriptive	2
Implement field trip experiences	
Develope parent/community program	
Solution applicable to rural areas	2
Early childhood	
Student awareness program for listening skills	2
Identification of compatible programs	
Need definition of "open education"	
Maintain over a period of time	

Major Sources for the Input Data Provided

	<u># sites</u>
Chief School Teacher/Facilitators	8
Principal	10
Project Instructional Supervisor	2
Staff of the school	3
Superintendent	4
County (linker personnel)	6
Other faculty	3
Community/parent	3
Training unit from University of Florida	2
Facilitating team	1
Faculty	10
University linkers	2
Supervisor of Elementary Education	1
Major input TEC linker	9
Curriculum coordinator/other specialists	2
TEC director	2
TEC coordinator	3
Assistant Director of Teacher Education	1
Legislation from state test data from DOE and LEA	1
Faculty meeting, minutes, records	2

Project 9

Content analysis of Problem Identification Report
representing eight sites.

Problem Area: Analyzing educational experiences
which relate to the total development of students in
Career Education.

①

Summary Statement of Problem

Many students are unable to make successful career decisions during the high school years as evidenced by: the annual vocational education survey and five-year follow-up survey; and an evaluation of the guidance program by the counseling department further identified the problem by indicating that counseling goals and procedure need to be improved.

The problem is to develop a comprehensive system of placement for the four high schools in the CEPD.

There is a need to coordinate the career education plan for grades K-12. The specific problem they are concerned with now is to find out what each teacher is doing with respect to career education and then place these activities along a K-12 career education continuum.

The basic problem identified is children's general lack of exposure to career alternatives. The local coordinator would like to see CEDISS take children from the classroom and bring them into contact with jobs outside school; however, the obstacles may be too great and the project too small for that.

There is a need to develop career awareness among students in grades K-6, with strong emphasis on student exposure to career options.

There is a need for a career awareness program for students in grades 7-12 that can be infused into guidance and counseling activities, incorporated into the existing instructional program, and delivered by a staff well-trained and informed about career awareness.

There is a need for an infusion of career education into the goals and objectives of every subject area, K-12. Since time and resources are limited, the infusion process will be initiated, with the help of CEDISS, in seventh grade language arts.

The general focus for the site will be the infusion of career education concepts into the K-6 curriculum. Teachers on the site team added to this statement of the problem that the focus for career education at the elementary level should not be career preparation but an increase in self-awareness, and decision-making abilities.

Rationale for Problem Priorities

2	# sites		# sites
Career education office to implement career education within the district	1	Provide students with learning strategies	1
District is within inner city	1	Majority of students graduating are uncertain about what they want to do	1
A large proportion of unemployment exists; welfare parents, with limited exposure	2	Provide students with skills they need to make decisions	1
Ninth/tenth graders are more career-oriented	1	Identify how teachers are currently implementing career education concepts in their classrooms	3
Ensure that children are reached before they do leave school	1	Teachers associate career education as directed toward specific jobs	2
Result in separate career education units along with existing curriculum	1	Both time and effort are needed to expand teachers' understanding of the concept to include life-long learning strategies	1
Time and resources are limited, teachers will participate voluntarily (beginning with Language Arts - 7th graders)	1	Agricultural communities have limited exposure to career information	1
Progress being made, other grade levels/areas will be included, until entire curriculum has been revised	1	Agricultural communities are not aware of choices available	1
Significant activities made by effort of interested volunteer teachers	1	There is no program that allows teachers to effectively infuse career awareness activities into routine classes	2
A program that would disseminate career information to both students and teaching staff	1	Importance of the need for teachers', administrators', and community residents' awareness of career exposure for students	1
Need for staff to receive specialized training	1	Dropouts sent to the area skills center	1
Surveys indicated that many graduates lack training for good-paying careers	2	School hopes to stimulate students' interest in the vocational skills	1
Counseling goals and procedures need improvement	1	Through career education, students will choose to remain in school until graduation	1
High school dropout rate	1	Linking schools with businesses to expose students	1
Economic base, few industries	1	Permitting some students to learn job skills by working as teachers' aides or in offices	1
Students reluctant to leave communities	1		
District tried to incorporate some career education activities with a more consistent plan	1		

3

Past Efforts to Solve the Problem

sites

Involved with federal programs for five years	1
Appointed career education coordinator two years ago	2
Staff training for career education	1
CEDISS is an extension of solving the problem that that began in 1973	1
Ohio Vocational Interest Scale	1
Student visits to Davis Area Career Center	1
Parents give presentations on careers	1
Job placement	1
Students do individual career studies	1
Use of commercial materials (kits, microfiche)	1
Inventories and surveys	1
Twelve-week "careers" class	1
Teachers have made individual efforts	2
Career Realization Program	1
Schools linked with local business	1
A few students work as aides/teachers/office	1
Career Education Office created within district	1
Cardon ISD project	1
Workshops	1

4

Involvement by Role and Site Team Membership

SITE TEAM (6)

District Director (chaired)

Teacher(s)

District coordinator

Prime movers

Principal(s)

Provided information

Provided support

Parent(s)

Different perspective

Counselors

Problem identification

Media Specialist

Evaluation and analysis
of media

PROJECT-RELATED OTHERS

CEPD Coordinator

Identified problem

District-wide survey

Consultant

Other CEPD staff

Participate in problem identification

SITE RELATED-OTHERS

Superintendent

Administrative Advisory Council

Parents

Teachers

Vocational Education Director

Placement Director

Local Site Coordinator

OUTSIDE ASSISTANCE

Local community and school people

Michigan Employment Security
Commission

Michigan Occupational Information
Services

Armed Services people

ERIC

MDE workshops

I.S.D.

Guidance counselors

None (7)

5

Process*

<u>Major Activities</u>	<u>Level of Effort</u>	<u>Time</u>
Identifying CEDISS problem area	Site Coordinator Guidance Counselor	Considerable amount of time since beginning of school
Meetings involving makeup of site team	Site Coordinator Teachers	
Meeting of support	Site Coordinator Superintendent	
The above meetings evolved into the four planning stages:		
Explaining the career education concept		
Disseminating to others		
Filling in career education gaps		
Reworking first three phases		
Curriculum Committee established	Principal Staff	
Weekly meetings	Site Coordinator CEPD Coordinator	

* Four out of eight sites reported no formal process or that the process was about to happen. The above is a summary of two sites.

Problem-solving Training and/or Other Management Tools Used

No specific problem-solving management tools were used	7
Career education goals and objectives booklet published by Michigan Department of Education	1

6

Evidence Examined to Help Define the Problem

sites

Observations/experience/surveys	5
Student difficulty finding jobs/high unemployment rate	1
High school dropout rate	1
Narrow economic base of county	1
Reluctance to seek employment out of community	1
Lack of career awareness program in curriculum	2
Parental complaints	3
Teacher/staff lack of exposure to career education	1

⑦

Solution Selection Criteria

sites

Needs assessment	1
Review problems	1
Solution will have to satisfy conditions	1
A process of implementing it into the curriculum	5
Makes students aware of program	2
Process community involvement	1
Make people aware of the services it provides	1
Costs	6
Solution will be accepted if staff can use it	1
New staff will be required	1
Group involvement (staff) meetings to find out latest developments	2
Teamwork	2
Individual meetings with team members to review plans	1
Help teacher identify classroom activities	1
Focus on changing student attitudes toward different careers	1
Use of materials/products that illustrate different careers	2
Effect of the product on basic skill performance	2
Focus/goals/objectives of the products	3
Targeted age group	3
Other research findings	1
Compatibility with district learner goals/subgoals	2
Product does not require change of teaching behavior	1
Durability of materials	1
Flexibility of product for large/small group use	3
Consultants and resources needed	1
Staff acceptance	1
Integration of plans	1
Assist counselors trying to infuse career awareness into their activities	2
Number of students to be affected	1
Indicate what results are expected	1
Inservice training of teachers in the use of special technical materials	1

8

Major Sources for the Input Data Provided

Two-day visit to site	CEPD coordinator (LA)
Supporting documents	Guidance counselor
ISU Director of Evaluation/ Curriculum Coordinator	Principal
Project participants	Media specialist
Site coordinator	Teachers (other than site team members)
Site team (teachers and parents) 3-4 members	